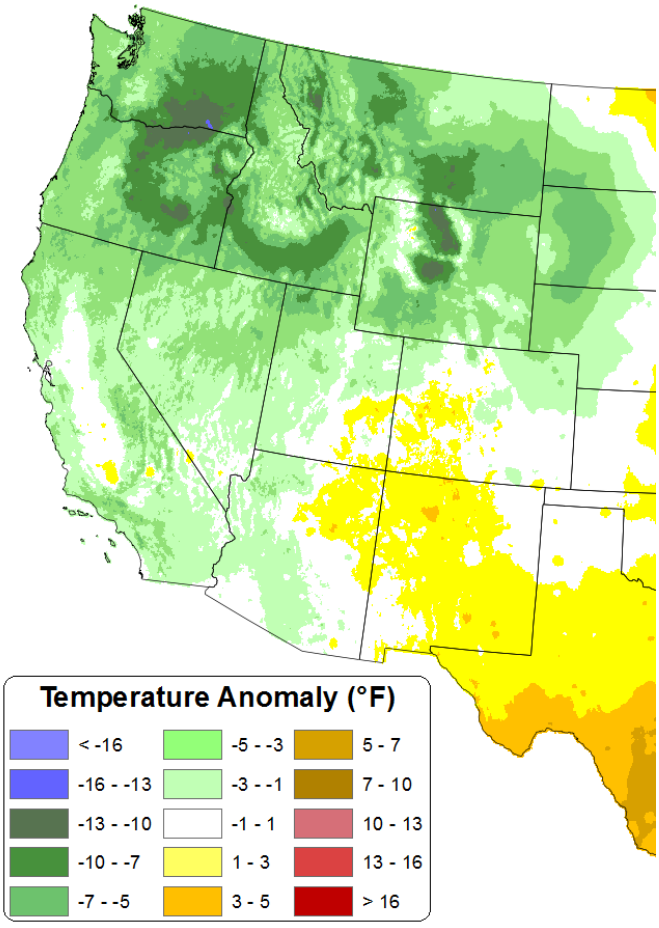
NRCS Natural Resources Conservation Service

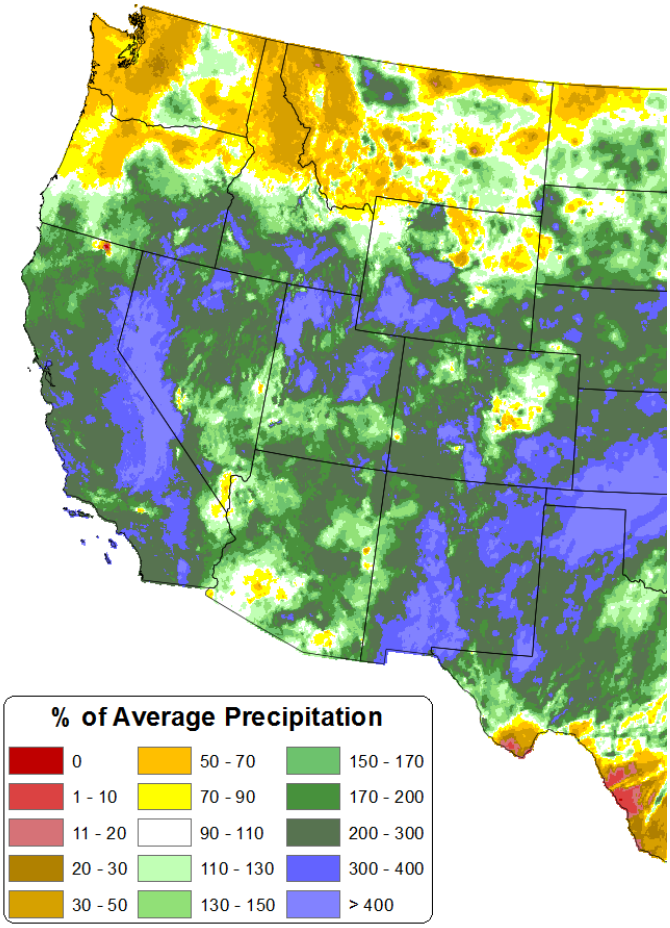
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Montana
Water Supply Outlook Report
February 1st, 2017

Jan 1 – Jan 31, 2017- Daily Average Temperature Departure from Normal



Jan 1 – Jan 31, 2017- Precipitation Departure from Normal



January can be summed up fairly well with the two images above. Cold air from the north spilled into the state throughout the month, resulting in well below average temperatures for the period. Air temperatures plummeted to below zero for extended periods during the month, with dry conditions prevailing. These cold high pressure systems blocked moisture from entering most parts of the state, and resulted in well below normal snowfall in the river basins of Montana. Some southern basins along the boundary of these systems received snowfall during the month, but the bulk of the mountain ranges and river basins saw declines in snowpack percentages from Jan 1st. Most major river basins snowpack totals are well below average on February 1st.

For more water supply and resource management information, contact:

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Bozeman, MT 59715
Phone 406-587-6843
lucas.zukiewicz@mt.usda.gov
http://www.nrcs.usda.gov/wps/portal/nrcs/main/mt/snow/

Montana Water Supply Outlook Report as of February 1st, 2017

How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Natural Resources Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

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Snowpack – Overview

Only two meaningful storms impacted most of the state during the month of January, the remaining periods were dominated by high pressure with well below average temperatures. So far this winter there has been a lot of national talk about the "Atmospheric River", which has been a direct stream of moisture that has been focused on the states south of us. The high pressure which has steered this river left the northern and central basins "high and dry", while southern basins along the edge of the systems have seen some increase in basin percentages over the month. Northern basins east and west of the divide saw significant decreases in snowpack percentages from January 1st due to the lack of snowfall during January.

The southern basins (Upper Yellowstone, Lower Yellowstone) are near to above normal for this date, due to the favored location along the southern border. All other basins in the state are well below normal for snowpack on Feb 1st. Compared to last year the southern basins are well above Feb 1 totals, while the remaining basins are below last year at this time. The one exception is the Sun-Teton-Marias River basin which is above last year (record low Feb 1 totals in 2016), but still well below normal for this date.

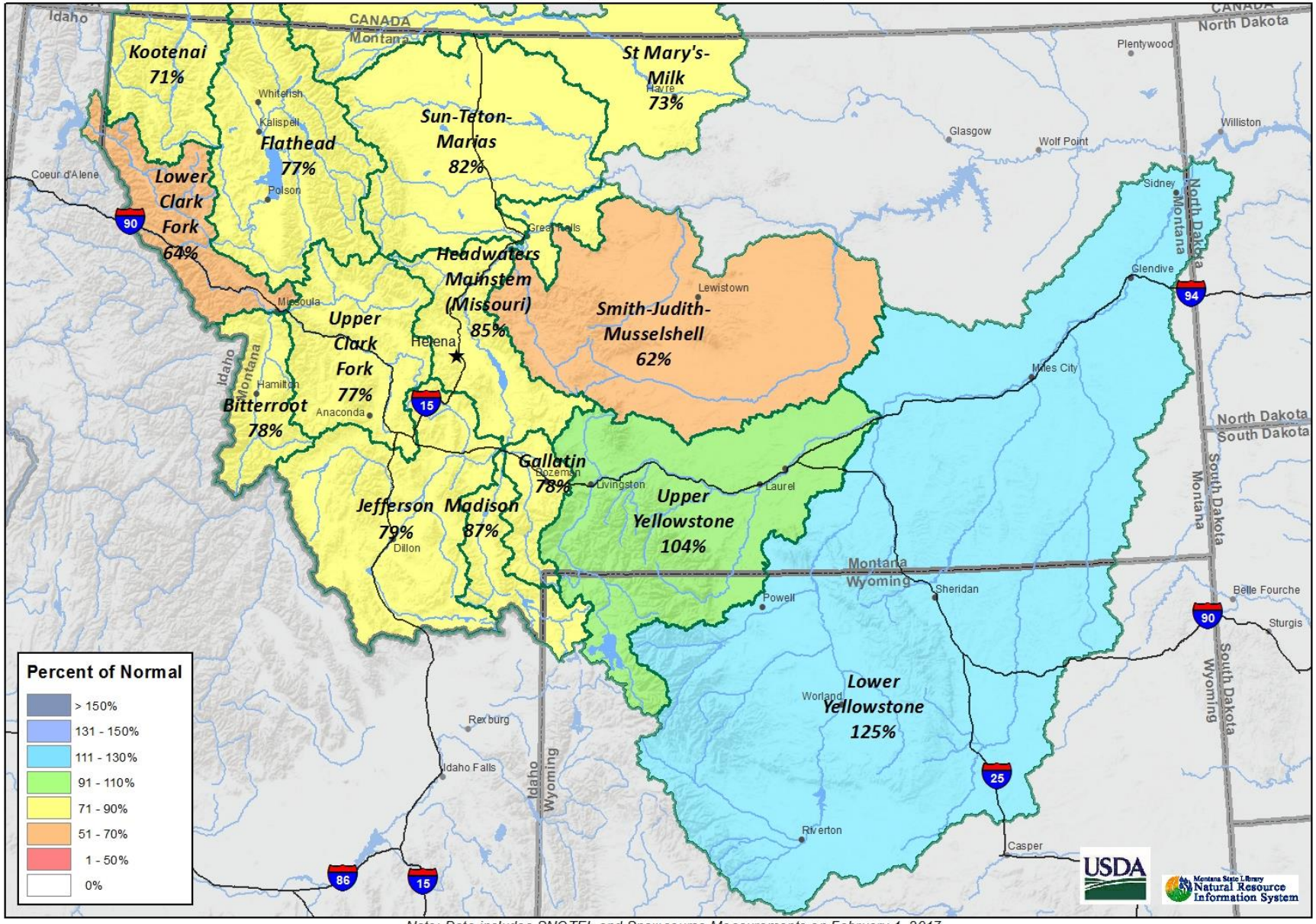
On Feb 1st typically 55 to 65% of our peak seasonal snowpack has accumulated in the mountains of Montana. While this leaves some room for improvement, and a major change will need to occur and yield above average snowfall for the remainder of winter, and through the spring months.

Snow Water Equivalent

2/1/2017	***% Normal***	***% Last Year***
Columbia River Basin	76	85
Kootnenai in Montana	71	84
Flathead in Montana	77	92
Upper Clark Fork	77	79
Bitterroot	78	85
Lower Clark Fork	64	73
Missouri River Basin	80	81
Jefferson	79	71
Madison	87	92
Gallatin	78	80
Headwaters Mainstem	85	77
Smith-Judith-Musselshell	62	59
Sun-Teton-Marias	82	132
St. Mary-Milk	73	106
Yellowstone River Basin	115	149
Upper Yellowstone	104	116
Lower Yellowstone	125	184

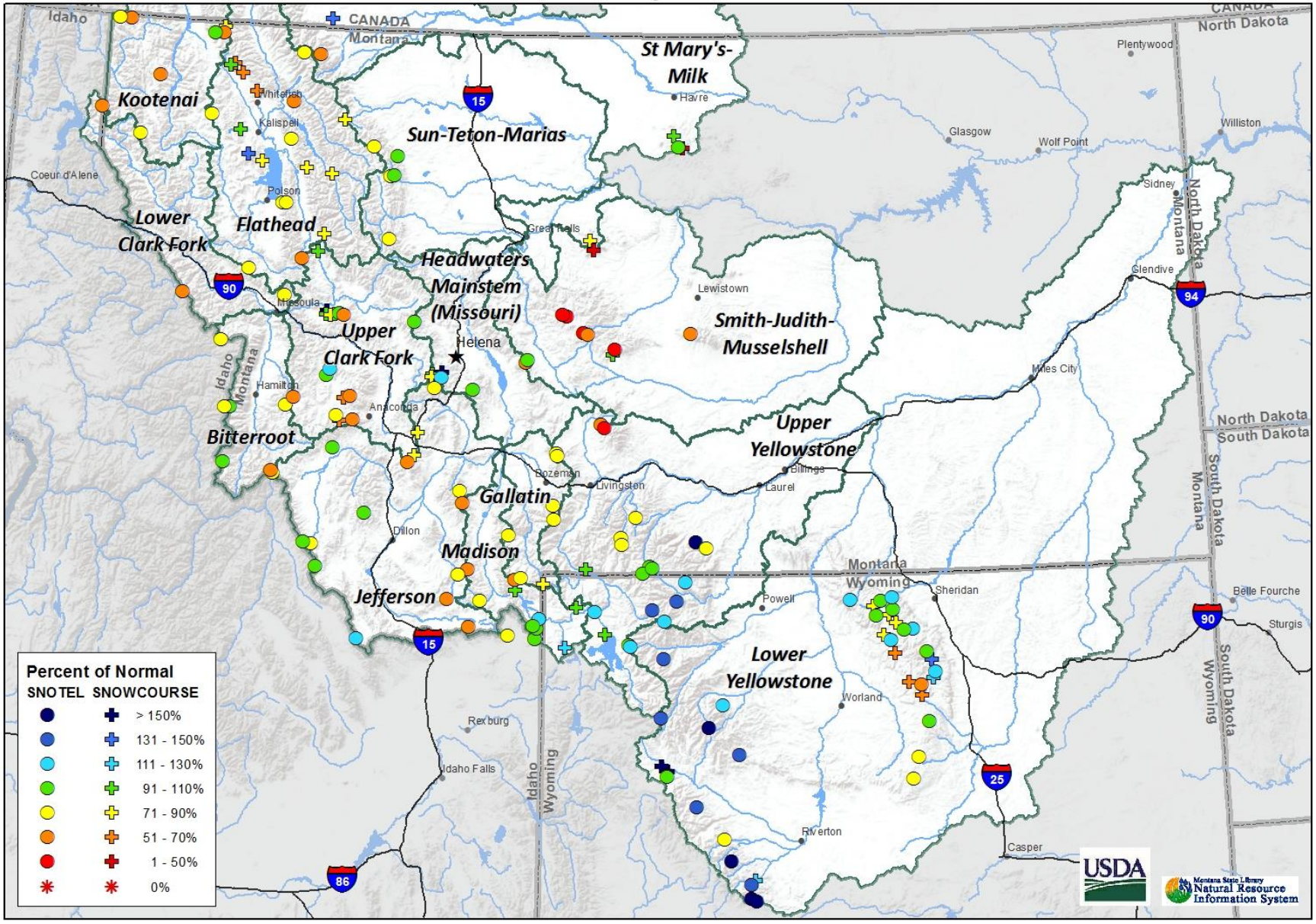
West of Divide	76	85
East of Divide	97	111
Montana State-Wide	80	87

Montana Data Collection Office
Current Snow Water Equivalent
Basin Percentage of Normal - February 1, 2017



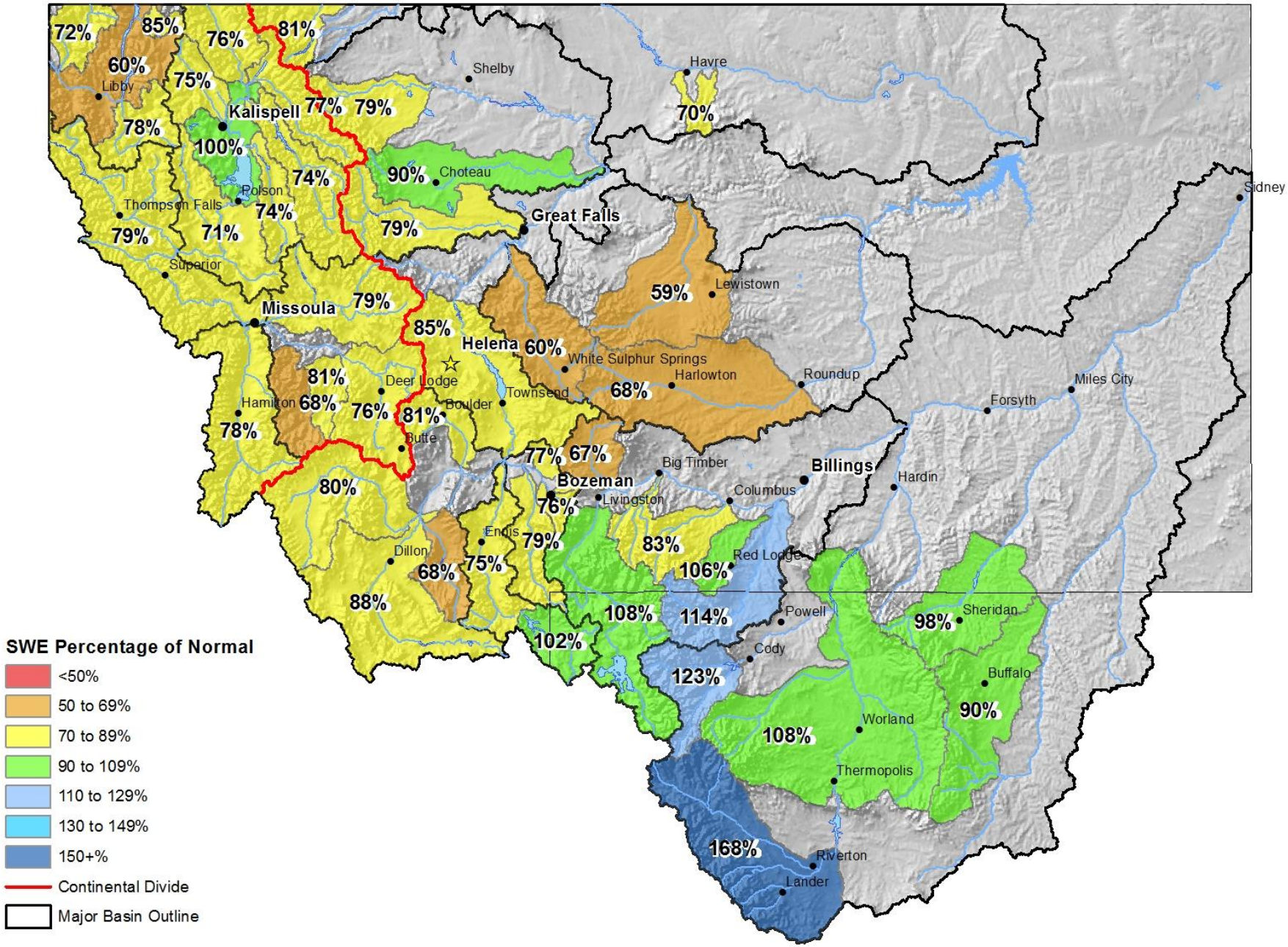
Note: Data includes SNOTEL and Snowcourse Measurements on February 1, 2017

Montana Data Collection Office
Current Snow Water Equivalent
February 1, 2017



Montana Data Collection Office

Sub-Basin Snow Water Equivalent - February 1st, 2017



Precipitation - Overview

Thanks goodness for October! The back and forth of this winter with wet and dry months has wreaked havoc on the emotions of water users across the state. After a wet and snowy December, January didn't deliver the needed precipitation that Montanans hoped was coming for the rest of the water year. In fact, only 36 to 59 % of average precipitation fell at mountain SNOTEL locations in the western basins during the month of January. East of the Divide the central and northern basins (Smith-Judith-Musselshell, St. Mary-Milk, Sun-Teton-Marias) also experienced well below average precipitation for the month at mountain weather stations. Basins along the southern border received closer to average precipitation, but monthly mountain totals were still slightly below normal. The silver lining in the state with regards to precipitation this month is in the Upper and Lower Yellowstone River basins where above average precipitation fell this January.

Valley precipitation followed the same trend as mountain precipitation this month and was generally below average in most locations. There were some pockets with near to above average precipitation along the southern border of the state, and around the Great Falls area.

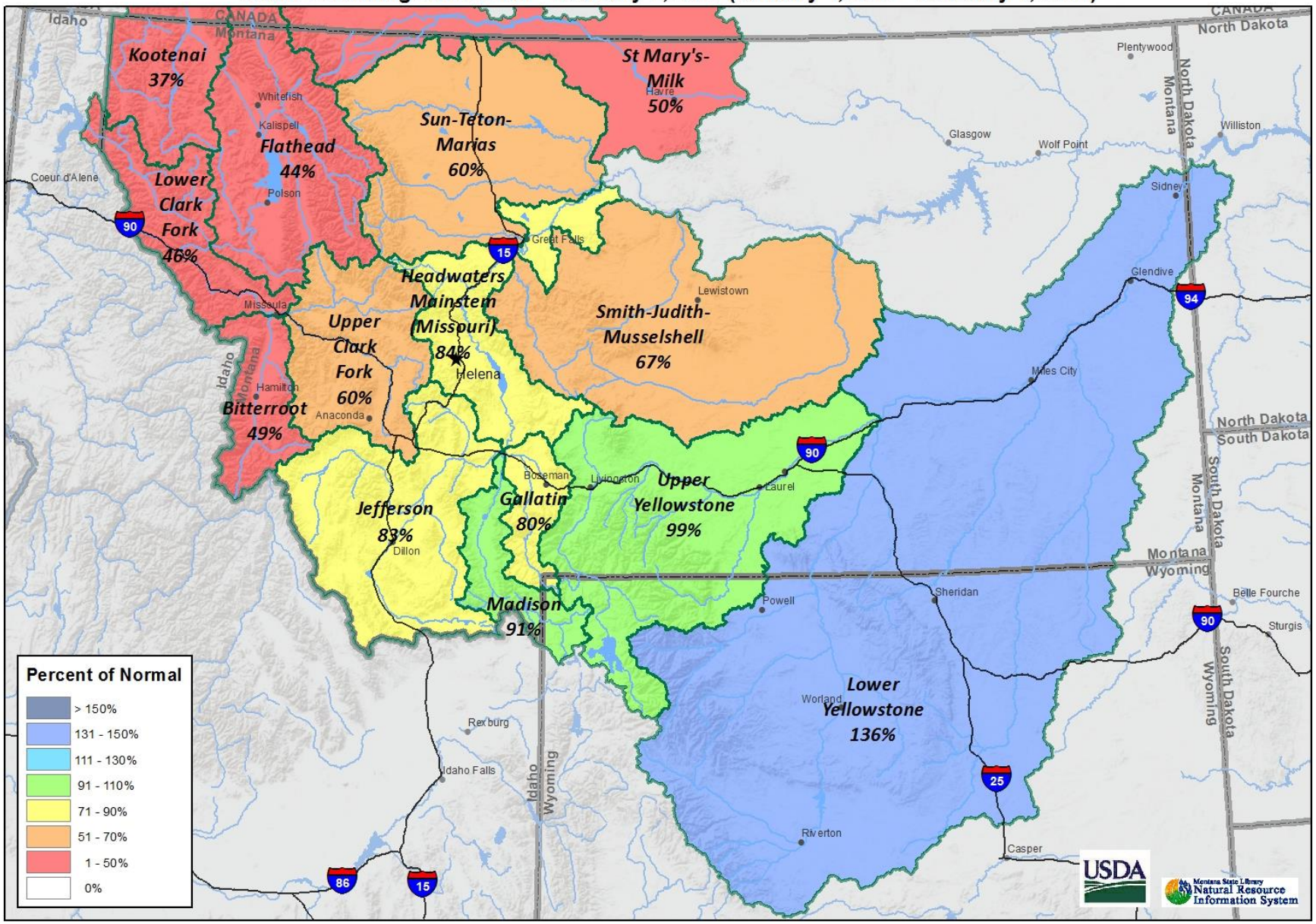
Water Year Precipitation (starting Oct 1) remains near to above average in most locations due to the October moisture and December snowfall. Only two areas are experienced below average water year totals, the Upper Clark Fork River basin and Bitterroot River basin below average WYTD precipitation on Feb 1.

Precipitation

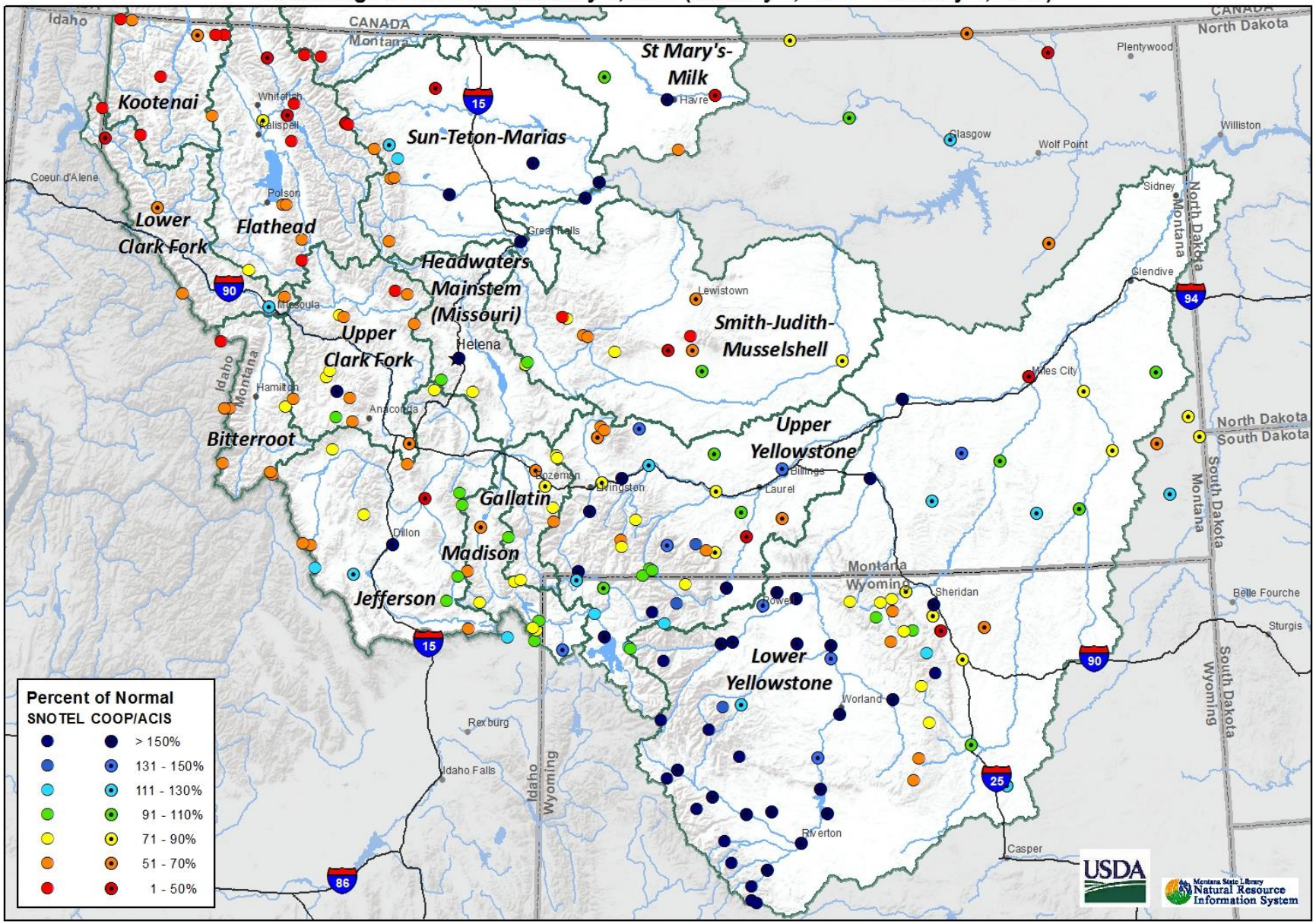
2/1/2017	***Monthly % Avg***	***Water Year % Avg***	***WY % Last Year***
Columbia River Basin	48	105	105
Kootnenai in Montana	37	115	102
Flathead in Montana	44	110	113
Upper Clark Fork	60	96	100
Bitterroot	49	90	94
Lower Clark Fork	46	105	107
Missouri River Basin	81	120	118
Jefferson	83	108	104
Madison	91	129	133
Gallatin	80	122	114
Headwaters Mainstem	84	106	107
Smith-Judith-Musselshell	67	105	98
Sun-Teton-Marias	60	103	130
St. Mary-Milk	50	149	139
Yellowstone River Basin	118	135	153
Upper Yellowstone	99	131	131
Lower Yellowstone	136	140	179

West of Divide	48	105	105
East of Divide	93	124	132
Montana State-Wide	67	115	115

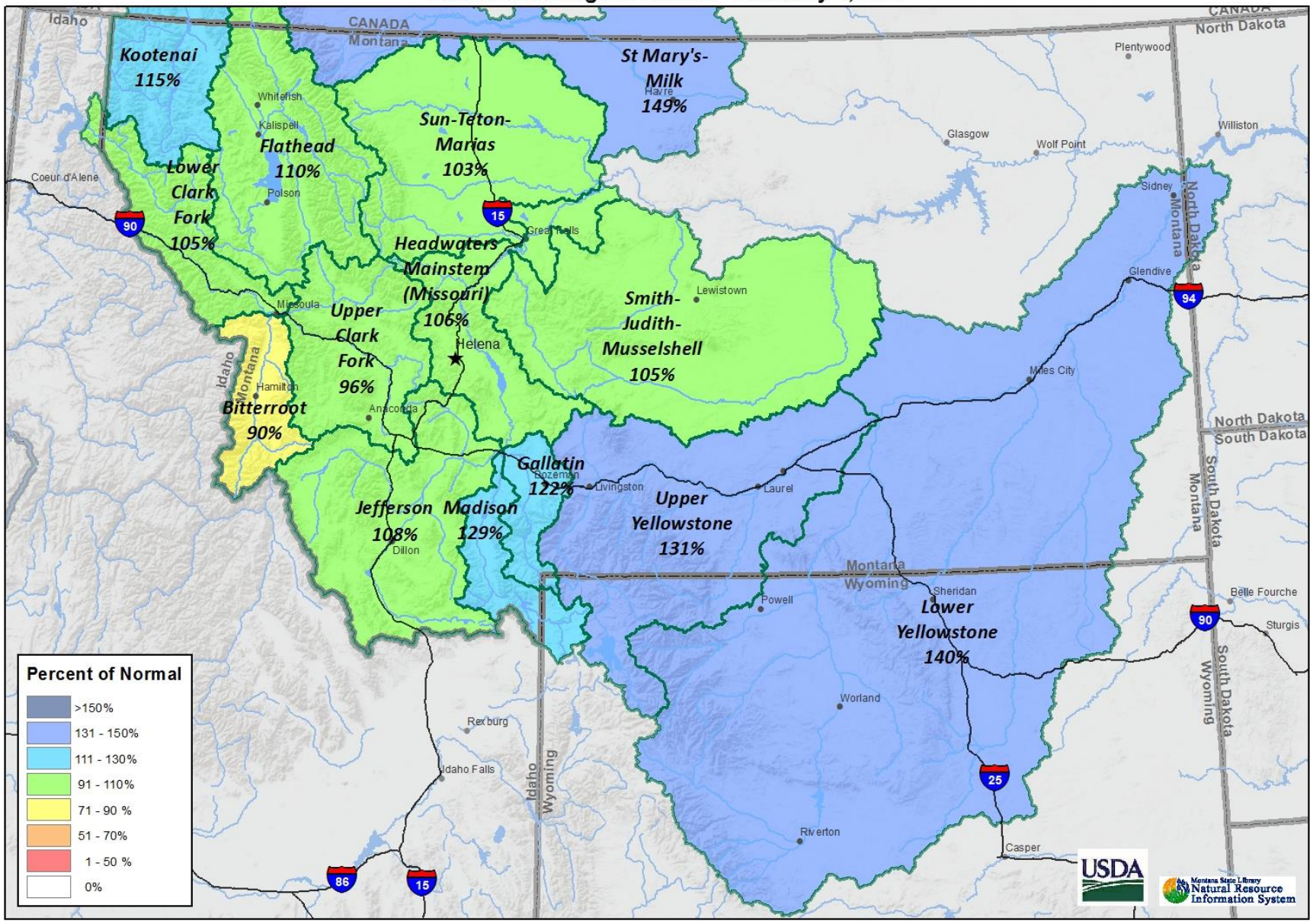
Montana Data Collection Office
Monthly Precipitation
Basin Percentage of Normal - February 1, 2017 (January 1, 2017 - February 1, 2017)



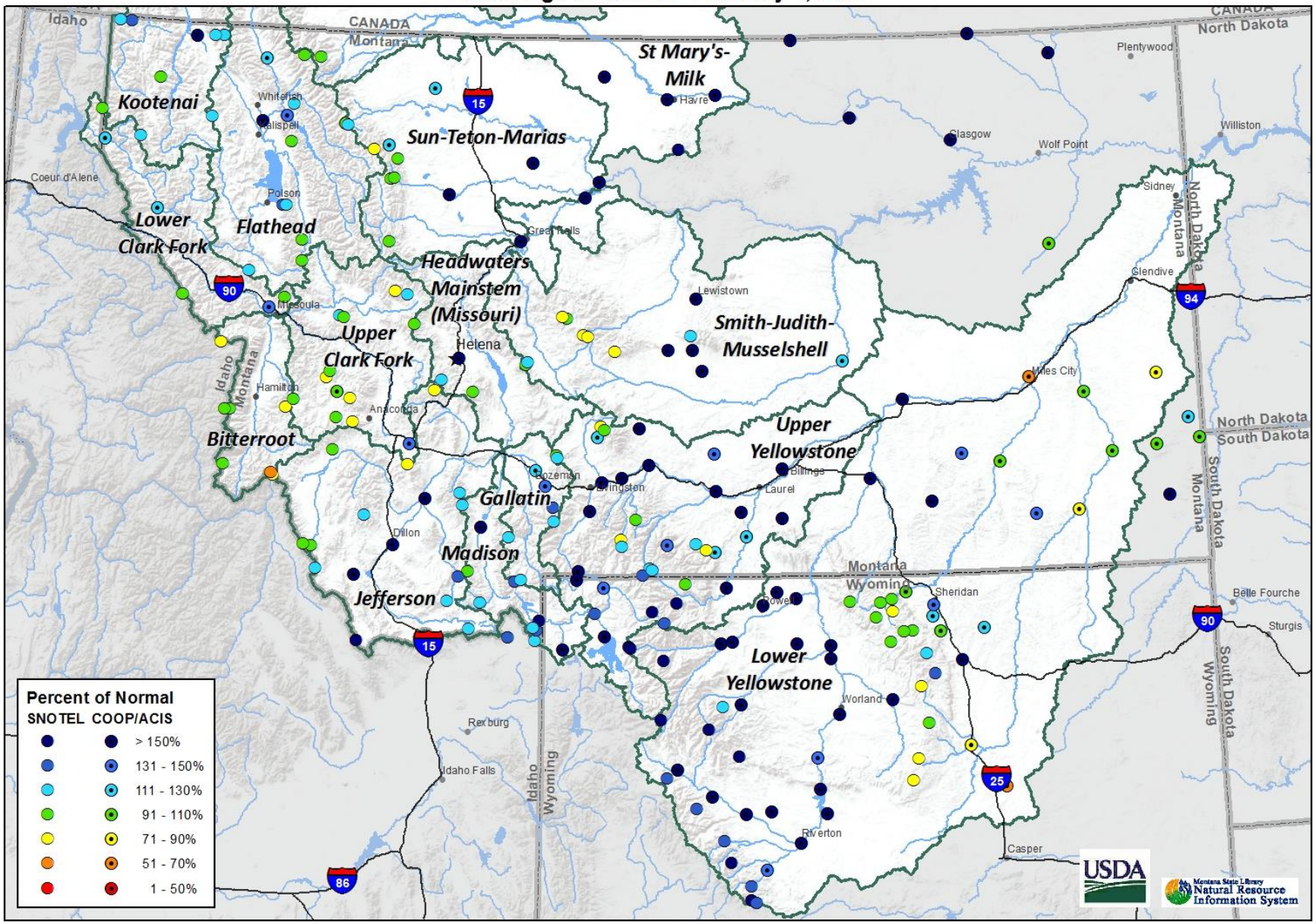
Montana Data Collection Office
Monthly Precipitation
Percentage of Normal - February 1, 2017 (January 1, 2017 - February 1, 2017)



Montana Data Collection Office
Water Year to Date Precipitation
Basin Percentage of Normal - February 1, 2017



Montana Data Collection Office
Water Year to Date Precipitation
Percentage of Normal - February 1, 2017



Reservoirs - Overview

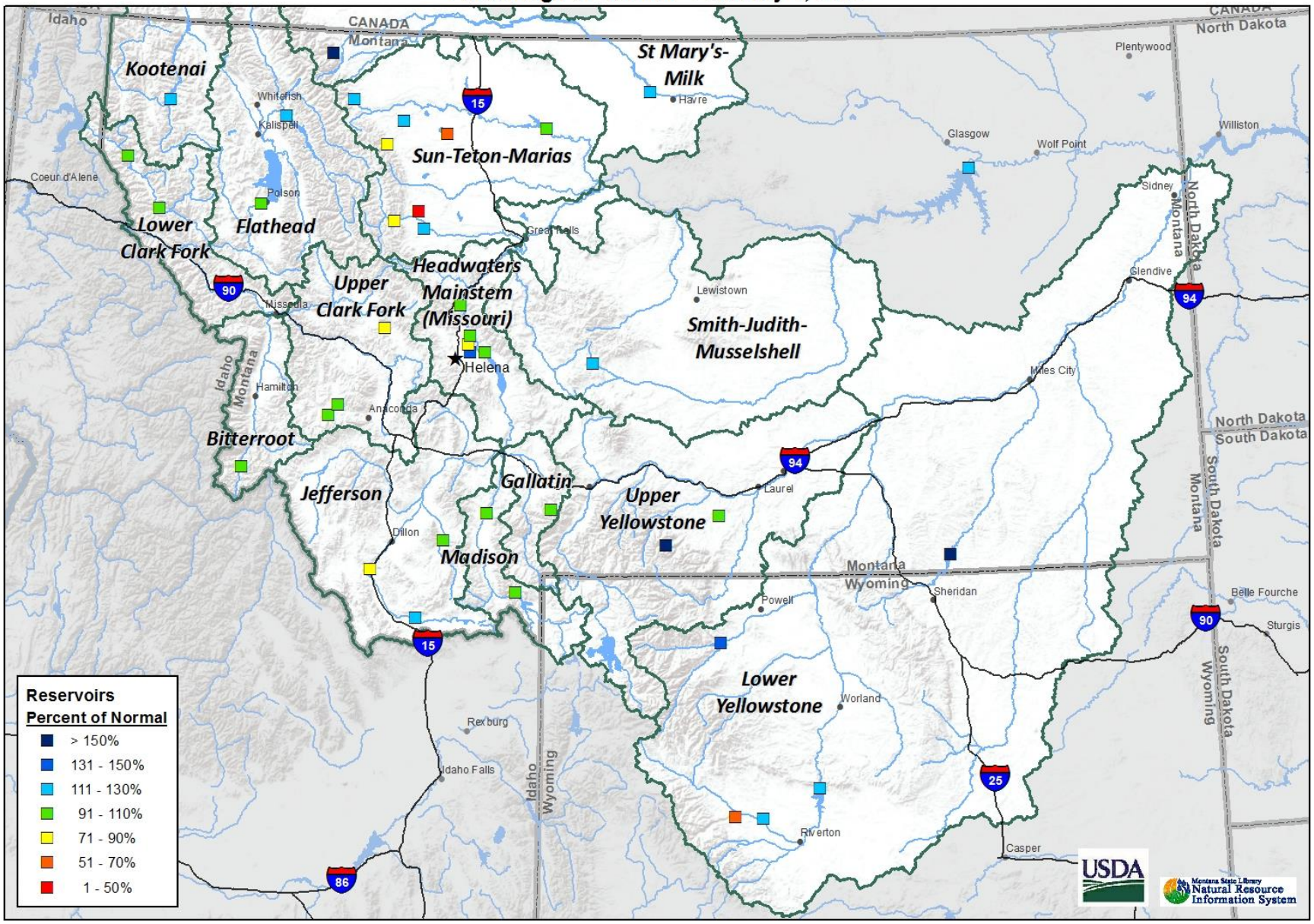
Most Reservoirs across the state are near or slightly above average for Feb 1st, however, some reservoirs in the Sun-Teton-Marias River basin remain below average. Please look at individual basin reports for detailed reservoir content information.

Reservoir Storage

2/1/2017	***% Average***	***% Capacity***	***% Last Year***
Columbia River Basin	115	66	98
Kootnenai in Montana	113	56	86
Flathead in Montana	119	75	112
Upper Clark Fork	98	67	91
Bitterroot	102	19	88
Lower Clark Fork	102	96	99
Missouri River Basin	112	76	100
Jefferson	89	41	110
Madison	108	80	98
Gallatin	100	52	95
Headwaters Mainstem	116	79	101
Smith-Judith-Musselshell	118	49	62
Sun-Teton-Marias	97	50	98
St. Mary-Milk	140	51	112
Yellowstone River Basin	109	64	102
Upper Yellowstone	120	56	86
Lower Yellowstone	109	65	103

West of Divide	115	66	98
East of Divide	112	75	100
Montana State-Wide	113	72	100

Montana Data Collection Office
Reservoir Levels
Percentage of Normal - February 1, 2017



Kootenai River Basin



The Kootenai Basin experience unseasonably dry conditions during January. Only two significant storms impacted the region producing slightly more than an inch per storm. Precipitation totals for the month were 30 to 50% of average with four sites registering their 2nd driest Januarys on record. Water-year percent of average totals fell but still ended the month slightly above normal.

This lack of precipitation was more noticeable when considering mountain SWE conditions. Total precipitation numbers were bolstered by record breaking rains in October but those storms were too early in the year to significantly add to the snowpack. This resulted in paradoxically low mountain SWE conditions. The snowpack ended the month well below normal and snowpack percentages have dropped 20 percent from Jan 1.

Kootenai River Basin Data Summary

Snowpack	**Percent of 1981-2010 Normal (Median)**	**Last Year Percentage of Normal (Median)**
KOOTENAY in CANADA	60%	93%
KOOTENAI MAINSTEM	60%	79%
TOBACCO	85%	85%
FISHER	78%	87%
YAAK	72%	104%
KOOTENAI RIVER BASIN in MONTANA	71%	85%
KOOTENAI ab BONNERS FERRY	71%	89%
Basin-Wide Snowpack	**71%**	**85%**

Precipitation	**Monthly Percentage of Average**	**WYTD Percentage of 1981-2010 Average***	**WYTD Last Year Percentage of Average**
Mountain Precipitation	37%	114%	112%
Valley Precipitation	58%	176%	163%
Basin-Wide Precipitation	**37%**	**115%**	**113%**

**WYTD Precipitation is October 1st- Current*

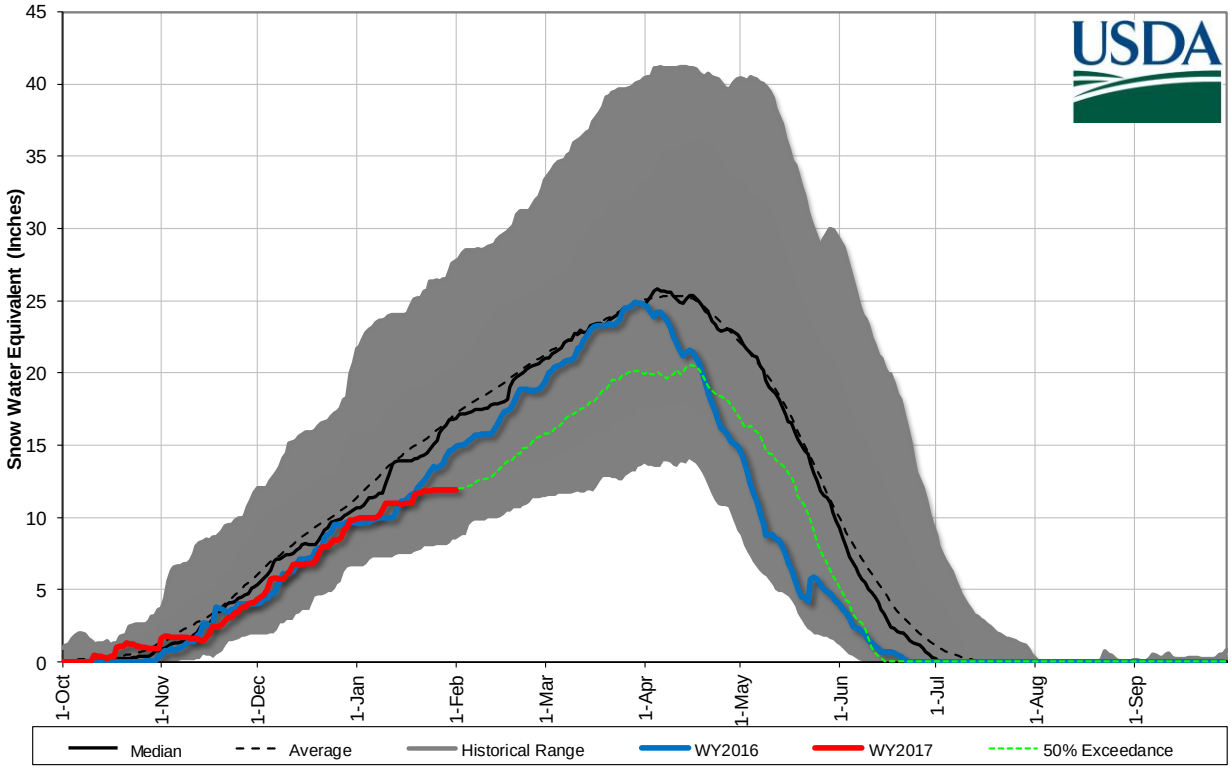
Reservoir Storage	**Percentage of Average**	**Percentage of Capacity (Total)**	**Last Year Percentage of Average**
Basin-Wide Reservoir Storage	**113%**	**56%**	**131%**

**See Reservoir Storage Table for storage in individual reservoirs*

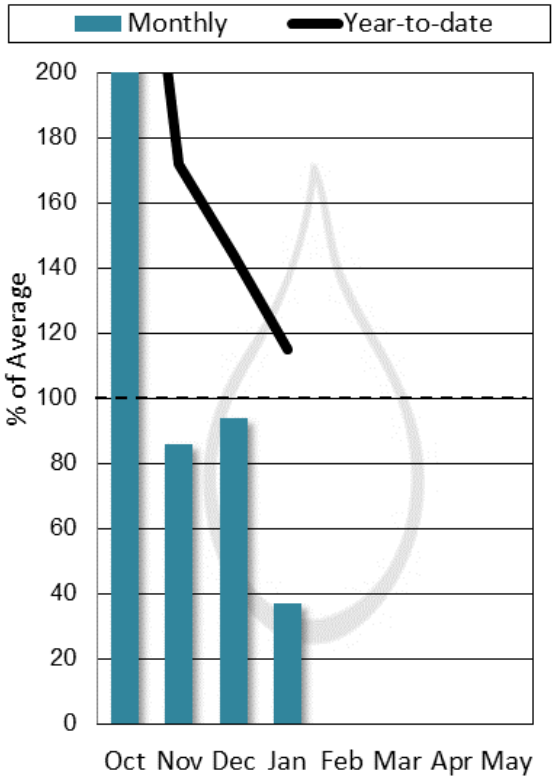
Reservoir Storage End of March, 2016	**Current (KAF)**	**Last Year (KAF)**	**Average (KAF)**	**Capacity (KAF)**	**% Average**	**% Capacity**
Lake Koocanusa	3243.9	3749.7	2865.0	5748.0	**113%**	**56%**

Kootenai River Basin Snowpack with Non-Exceedence Projections

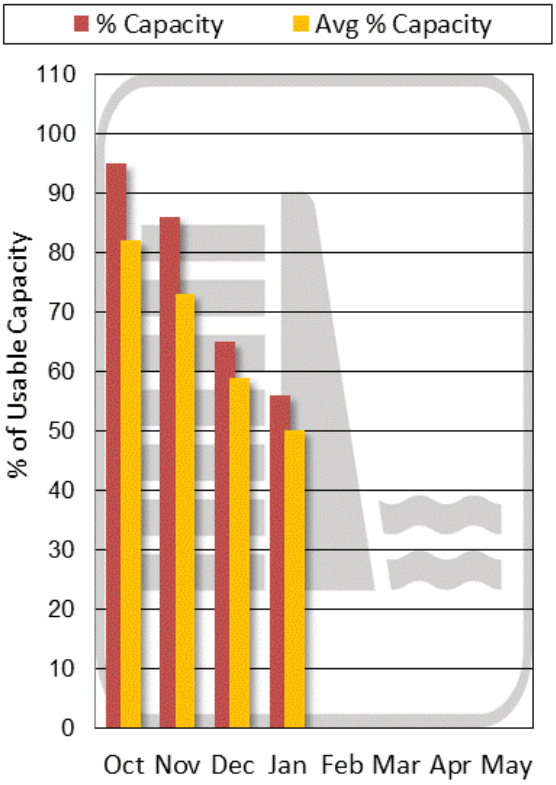
Based on provisional SNOTEL daily data as of 2/1/2017



Mountain and Valley Precipitation

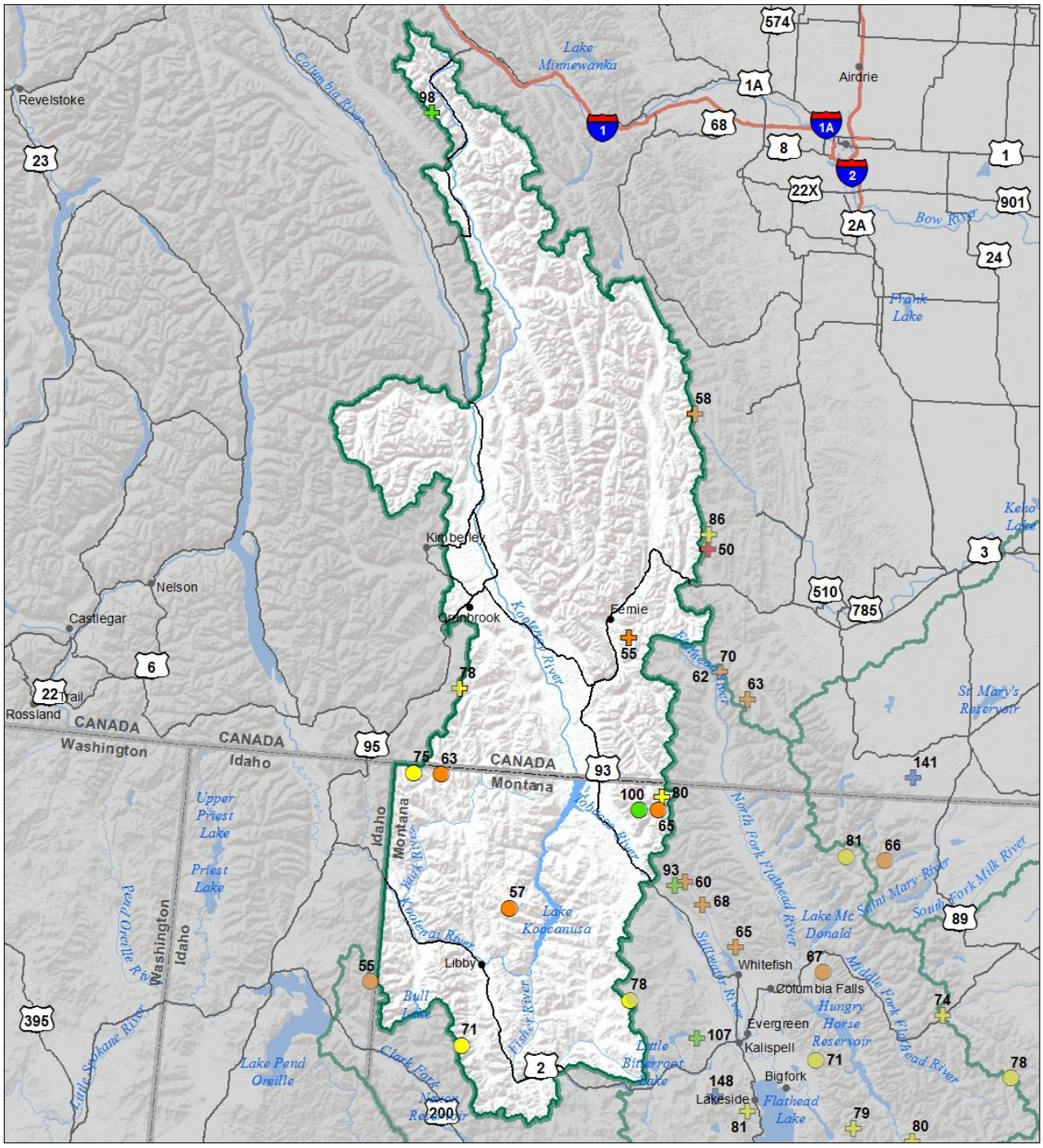


End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Kootenai River Basin
Snow Water Equivalent
Percentage of Normal
February 1, 2017



Snow Water Equivalent
Percent of Normal

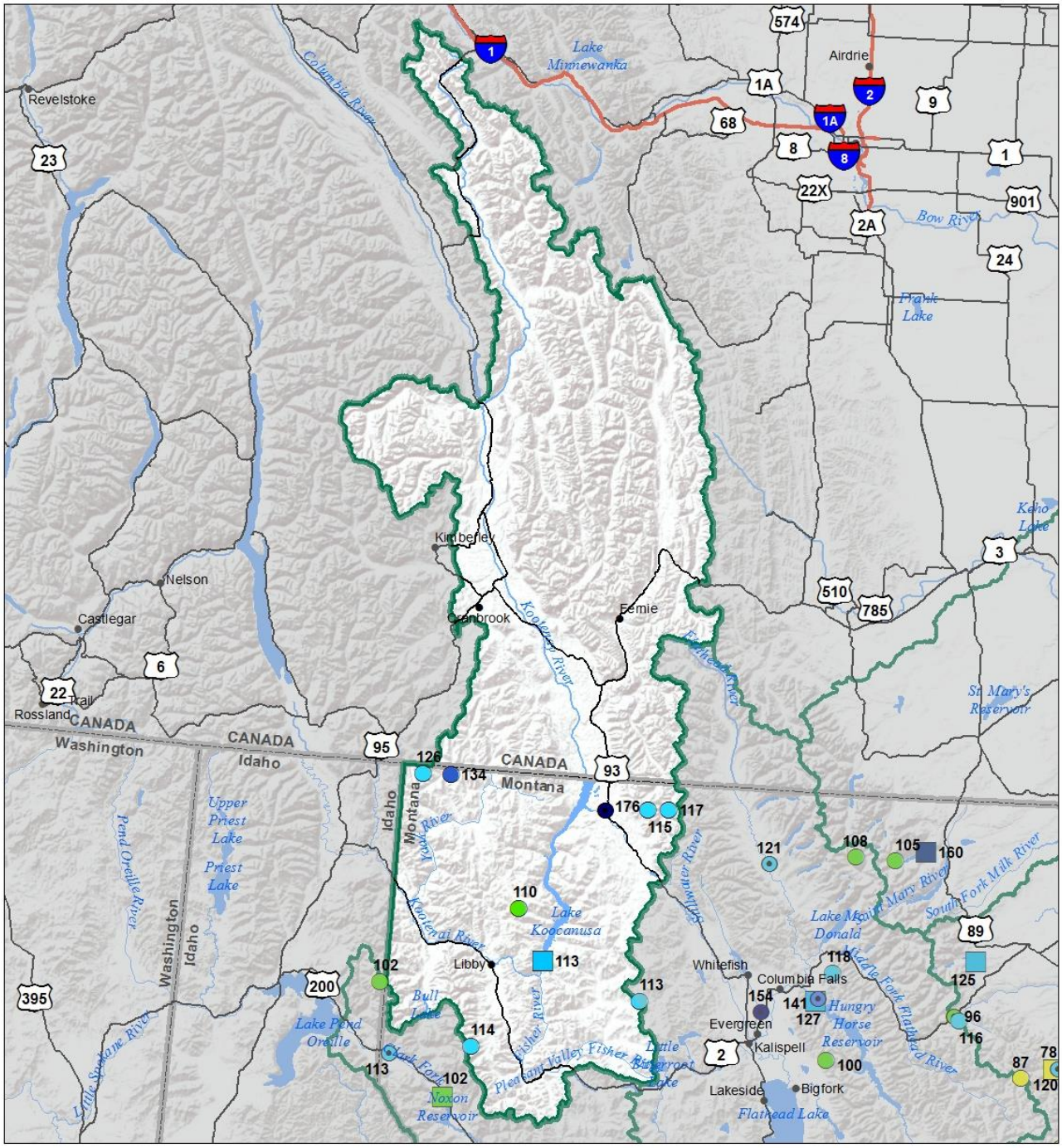
SNOTEL		Snowcourse	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%	0%	91 - 110%	0%



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Kootenai River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

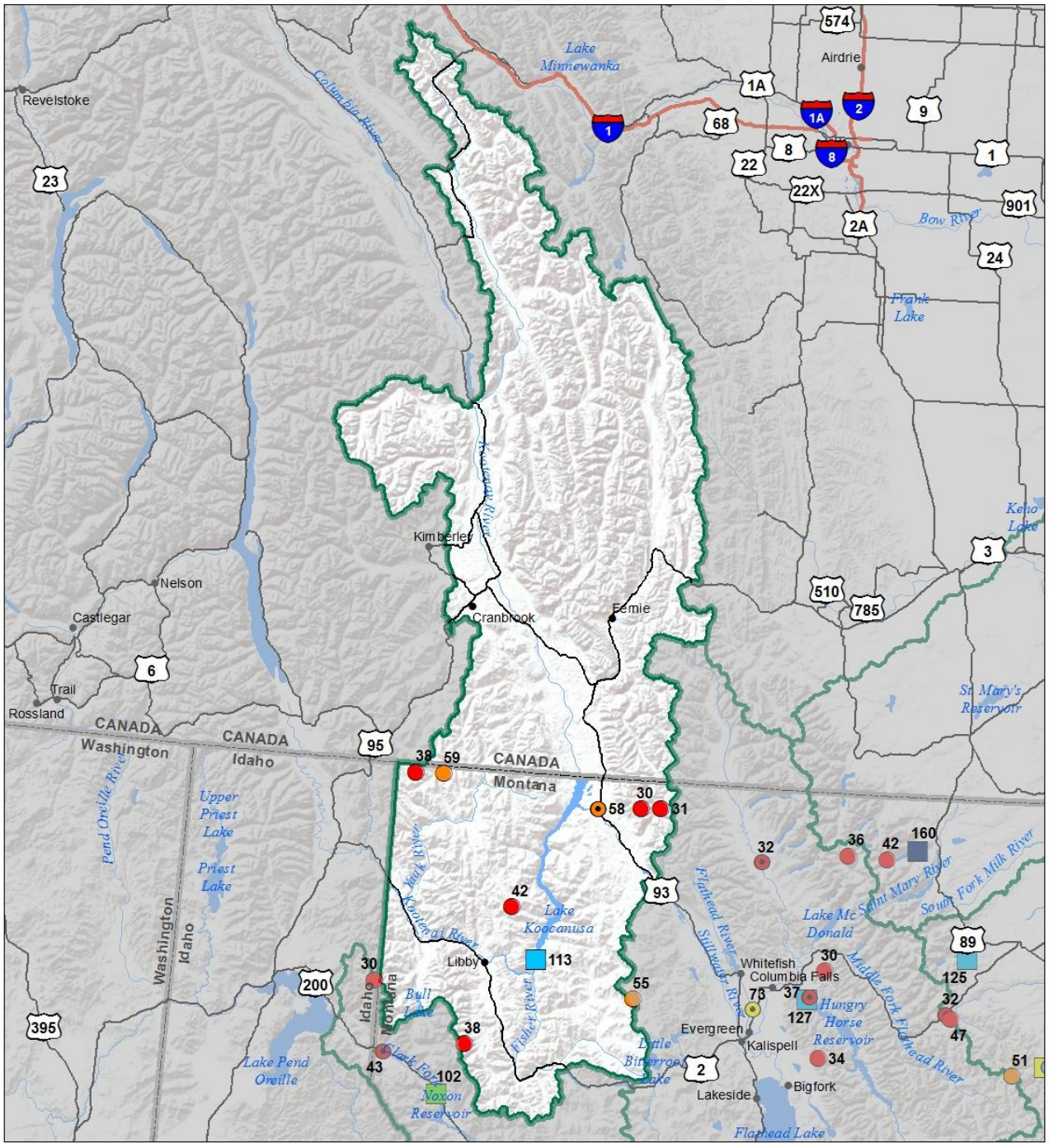
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Kootenai River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017 (January 1, 2017 - February 1, 2017)



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

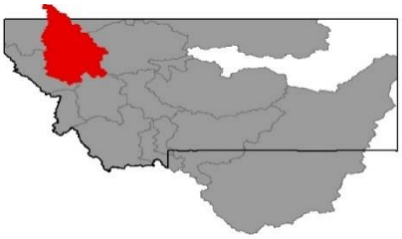
Reservoirs
Percent of Normal

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Montana State Library Natural Resource Information System



Flathead River Basin

The Flathead Basin experience unseasonably dry conditions through January. Only one significant storm, during the second week of the month, impacted the region producing 1 - 2 inches of snow water across most mountain locations. The rest of the month was characterized by relatively low snowfall and mild temperatures. Precipitation totals for the month were 30 to 50% of average. Three sites registered their 2nd driest Januarys while one, North Fork Jocko, had its driest on record. Water-year cumulative precipitation percentages fell, but remained slightly above normal on February 1st.

This lack of precipitation was more dramatic when considering mountain SWE conditions. While total precipitation numbers were bolstered by heavy rains in October those storms were early in the year and accompanied by warmer temperatures thus significant snowfall did not result. December also brought significant storms. Those storms were able to lift January 1st SWE totals to near normal levels. By February 1st, however, the lack of moisture through January left mountain snow conditions well below normal.

Flathead River Basin Data Summary

Snowpack	**Percent of 1981-2010 Normal (Median)**	**Last Year Percentage of Normal (Median)**
NF FLATHEAD in CANADA	67%	72%
NF FLATHEAD in MONTANA	76%	81%
MIDDLE FORK FLATHEAD	77%	78%
SOUTH FORK FLATHEAD	74%	90%
STILLWATER-WHITEFISH	75%	84%
SWAN	74%	90%
MISSION VALLEY	85%	98%
LITTLE BITTERROOT-ASHLEY	100%	80%
JOCKO	71%	81%
FLATHEAD in MONTANA	77%	84%
Basin-Wide Snowpack	***77%***	***83%***

Precipitation	**Monthly Percentage of Average**	**WYTD Percentage of 1981-2010 Average***	**WYTD Last Year Percentage of Average**
Mountain Precipitation	43%	109%	97%
Valley Precipitation	73%	154%	104%
Basin-Wide Precipitation	**44%**	**110%**	**97%**

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

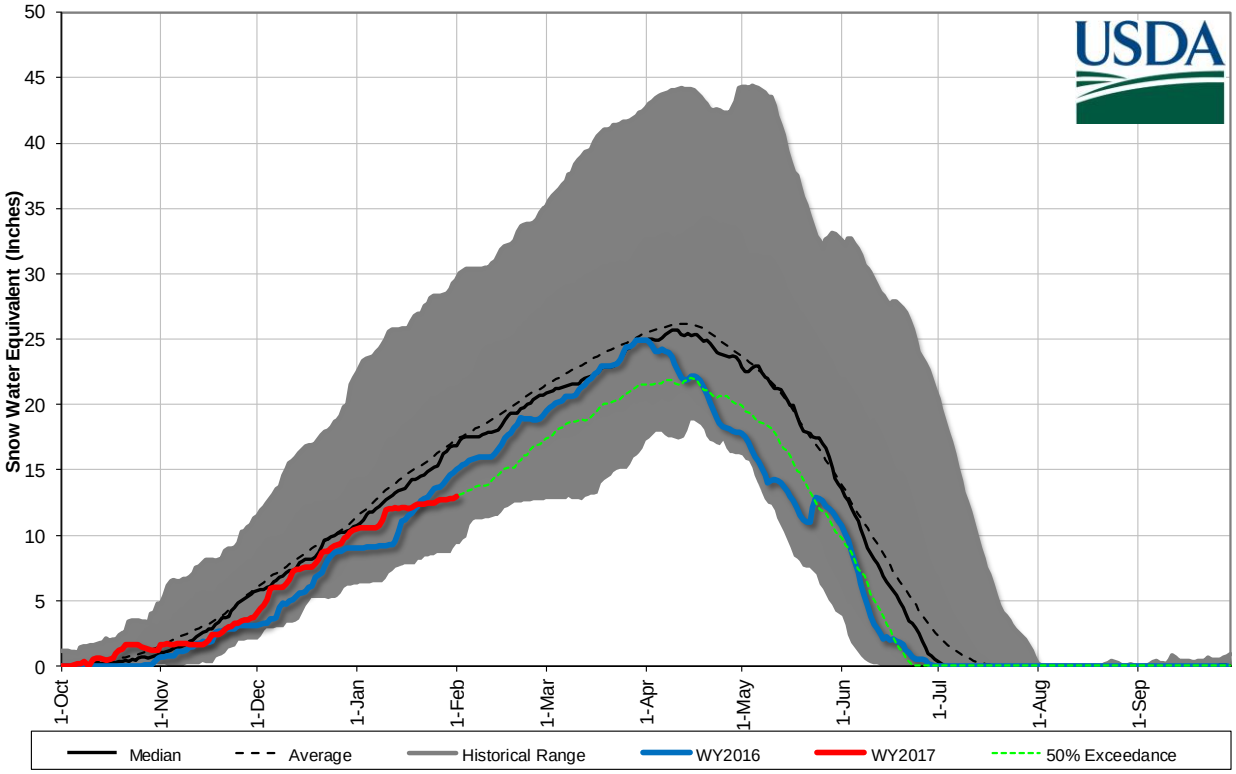
Reservoir Storage	**Percentage of Average**	**Percentage of Capacity (Total)**	**Last Year Percentage of Average**
Basin-Wide Reservoir Storage	119%	75%	106%

**See Reservoir Storage Table for storage in individual reservoirs*

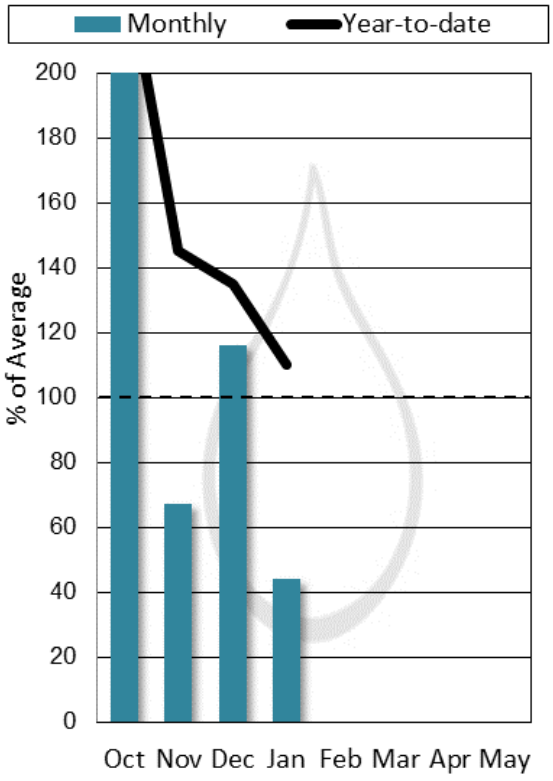
Reservoir Storage End of March, 2016	**Current (KAF)**	**Last Year (KAF)**	**Average (KAF)**	**Capacity (KAF)**	**% Average**	**% Capacity**
Camas (4)		20.5	18.2	45.2		
Lower Jocko Lake		0.0	0.0	6.4		
Mission Valley (8)		22.5	30.9	100.0		
Hungry Horse Lake	3021.5	2523.5	2375.0	3451.0	**127%**	**88%**
Flathead Lake	925.5	990.7	955.6	1791.0	**97%**	**52%**

Flathead River Basin Snowpack with Non-Exceedence Projections

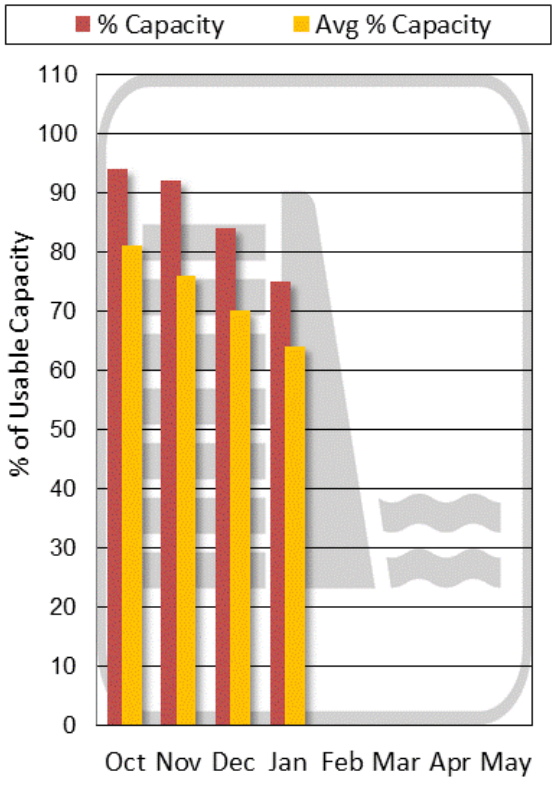
Based on provisional SNOTEL daily data as of 2/1/2017



Mountain and Valley Precipitation

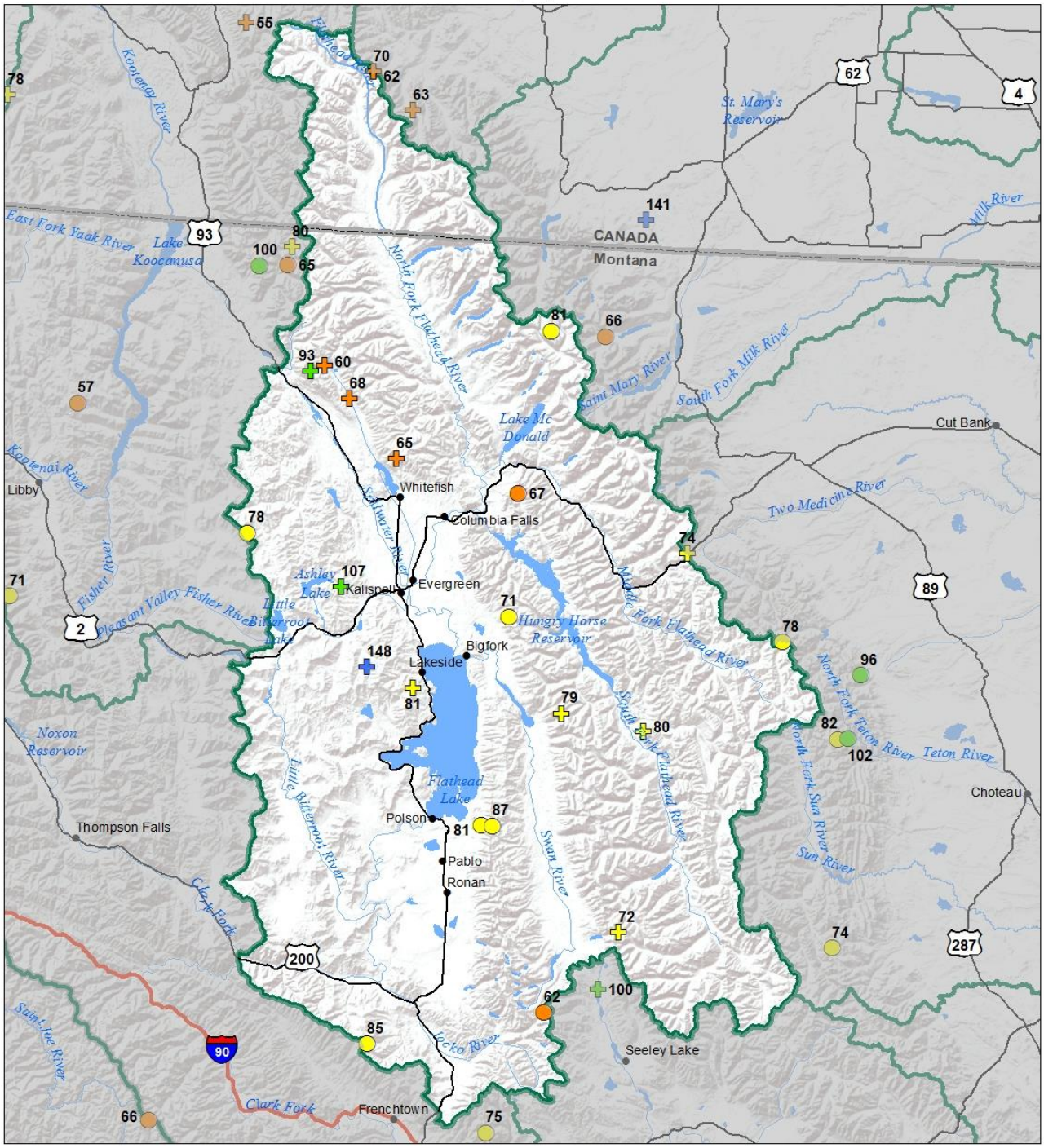


End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Flathead River Basin
Snow Water Equivalent
Percentage of Normal
February 1, 2017



Snow Water Equivalent
Percent of Normal

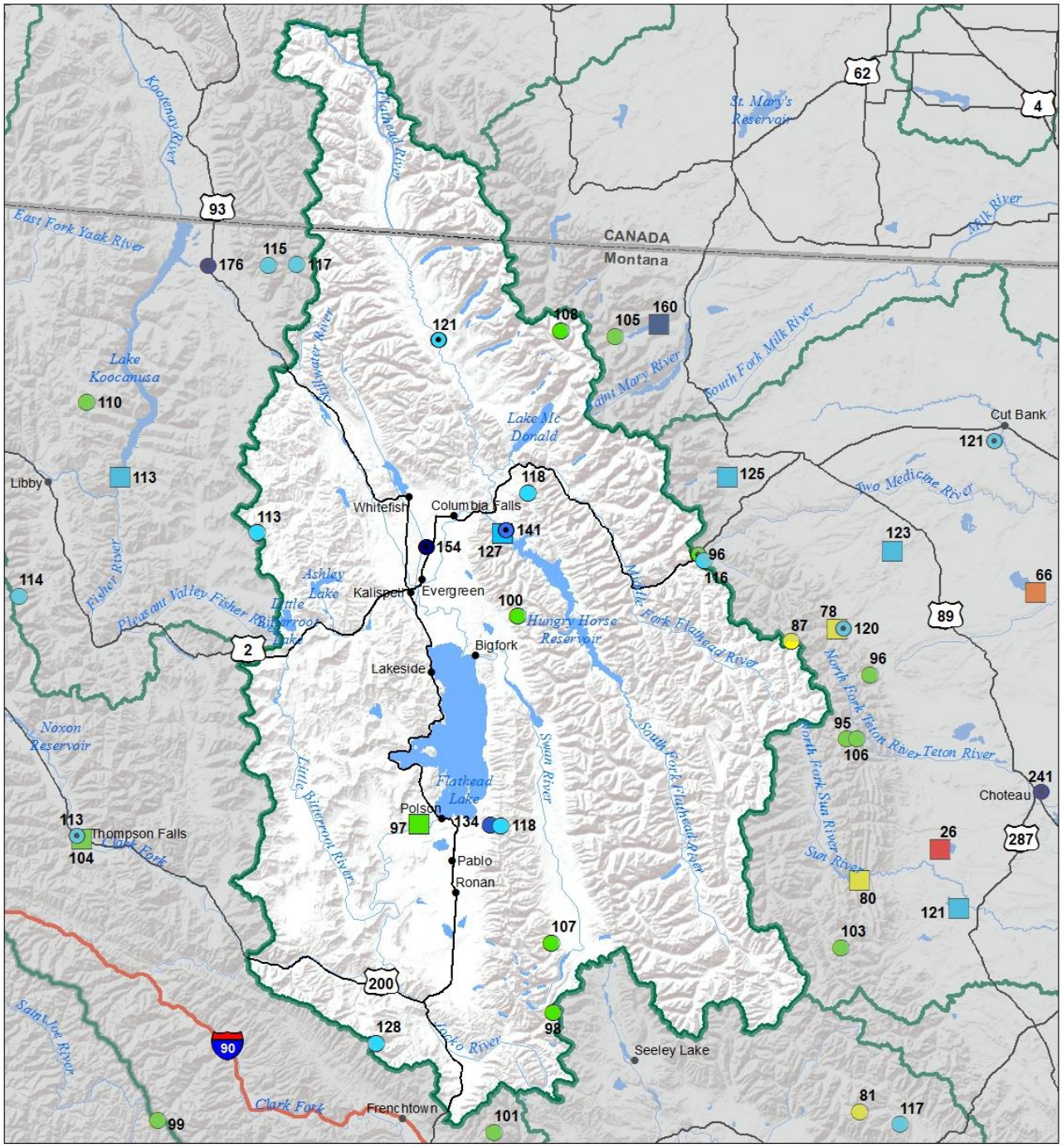
SNOTEL		Snowcourse	
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131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%	0%	91 - 110%	0%



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Montana State Library Natural Resource Information System

Flathead River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

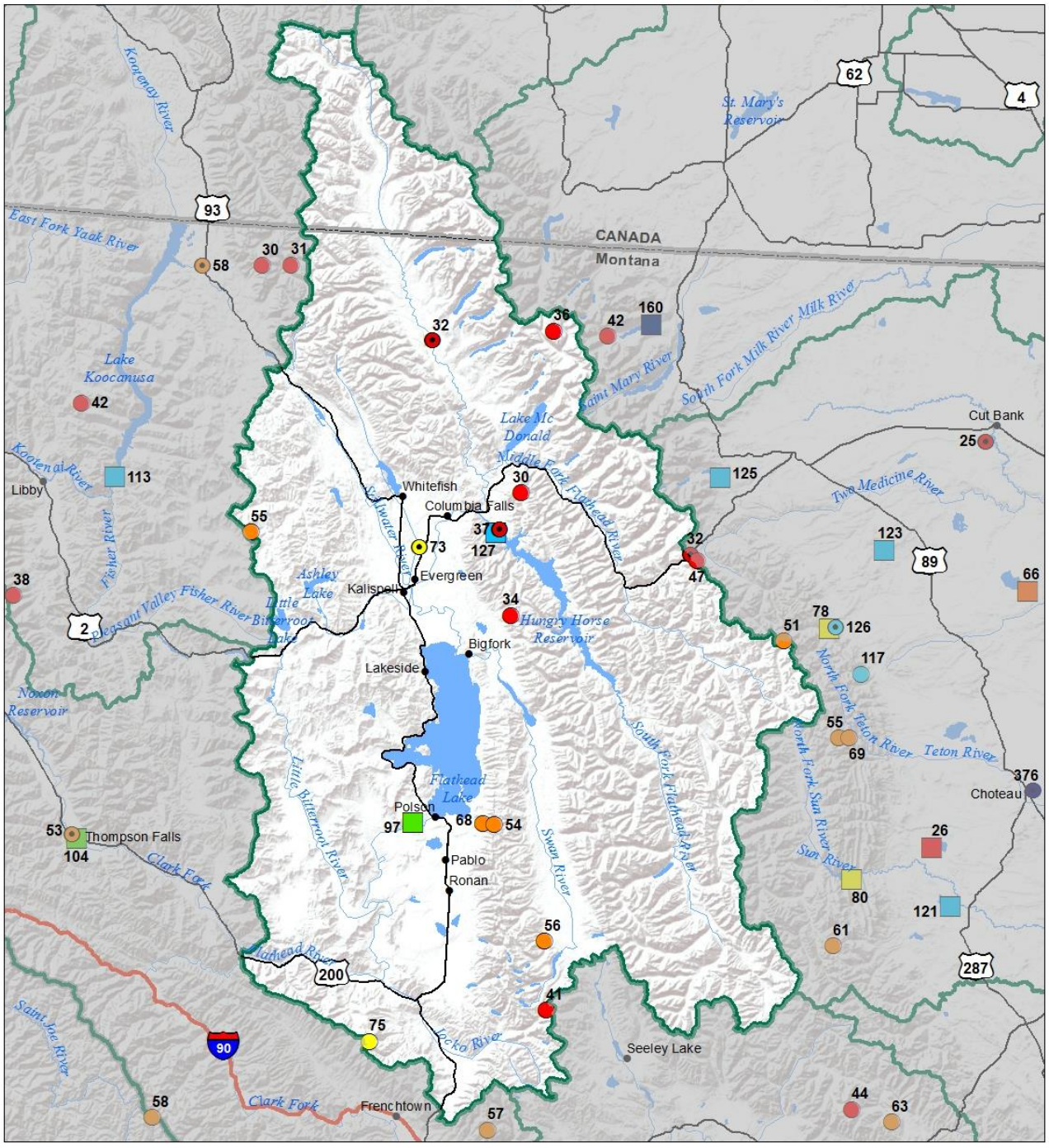
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Flathead River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017 (January 1, 2017 - February 1, 2017)



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Upper Clark Fork River Basin



Storms mostly overlooked the Upper Clark Fork River basin during the month of January, there was only one major storm at the beginning of the second week of the month and this storm added 1.0" to 1.5" of snow water equivalent to the snowpack. During the latter half of January from the 11th until the 31st only 0.5" to 1.0" of snow water accumulated in the basin, well below normal for this time of year. Monthly snowfall was 50% to 80% of normal across the basin, and varied greatly within the sub-basins. Of note this month are the SNOTEL sites in the Pintler Range and Flint Creek Range. The Warm Springs SNOTEL and Discovery Basin snow course in the southern Flint Creek Range are the 2nd lowest for Feb 1st in the last 40 years. The Storm Lake snow course (56% POR average) and Barker Lakes SNOTEL site (60% POR average), two higher elevation measurement locations in the Pintler Range, are the lowest on record for those sites. Snowpack for this date across the basin is well below normal, and is down substantially from Jan 1.

Although January wasn't especially productive with regards to snowfall, substantial fall and early winter precipitation has left water year-to-date precipitation totals close to average in most sub-basins at this time. A return to more favorable weather patterns could help to make up the snowpack deficits experienced so far this winter, but above average snowfall will be needed this winter and spring.

Upper Clark Fork River Basin Data Summary

Snowpack	**Percent of 1981-2010 Normal (Median)**	**Last Year Percentage of Normal (Median)**
CLARK FORK ab FLINT CREEK	76%	111%
FLINT CREEK	81%	110%
ROCK CREEK	68%	103%
CLARK FORK ab BLACKFOOT	76%	107%
BLACKFOOT	79%	87%
Basin-Wide	**77%**	**98%**

Precipitation	**Monthly Percentage of Average**	**WYTD Percentage of 1981-2010 Average***	**WYTD Last Year Percentage of Average**
Mountain Precipitation	59%	95%	95%
Valley Precipitation	153%	126%	144%
Basin-Wide Precipitation	**60%**	**96%**	**96%**

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

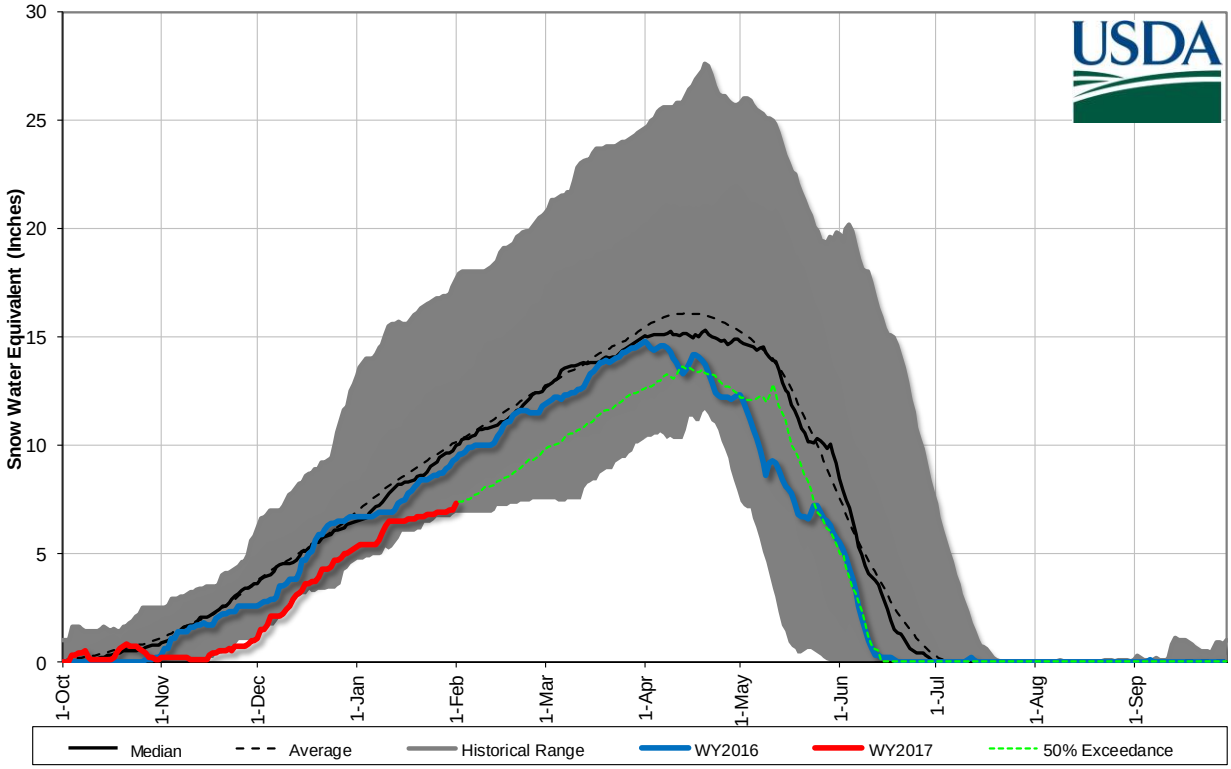
Reservoir Storage	**Percentage of Average**	**Percentage of Capacity (Total)**	**Last Year Percentage of Average**
Basin-Wide Storage	**98%**	**67%**	**108%**

**See Reservoir Storage Table for storage in individual reservoirs*

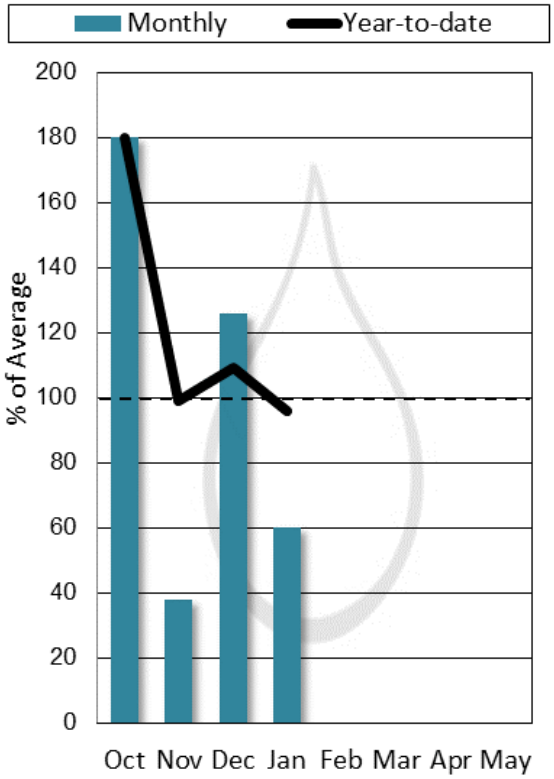
Reservoir Storage End of March, 2016	**Current (KAF)**	**Last Year (KAF)**	**Average (KAF)**	**Capacity (KAF)**	**% Average**	**% Capacity**
East Fork Rock Creek Res	8.2	7.6	7.5	15.6	**109%**	**109%**
Georgetown Lake	27.9	28.4	27.8	31.0	**100%**	**100%**
Lower Willow Creek Reservoir			1.9	4.9		
Nevada Creek Res	3.6	7.5	5.0	12.6	**72%**	**72%**

Upper Clark Fork River Basin Snowpack with Non-Exceedence Projections

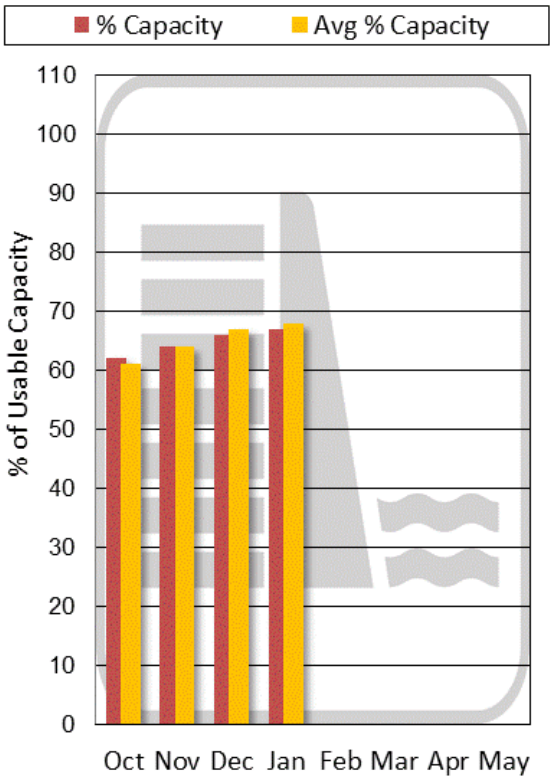
Based on provisional SNOTEL daily data as of 2/1/2017



Mountain and Valley Precipitation

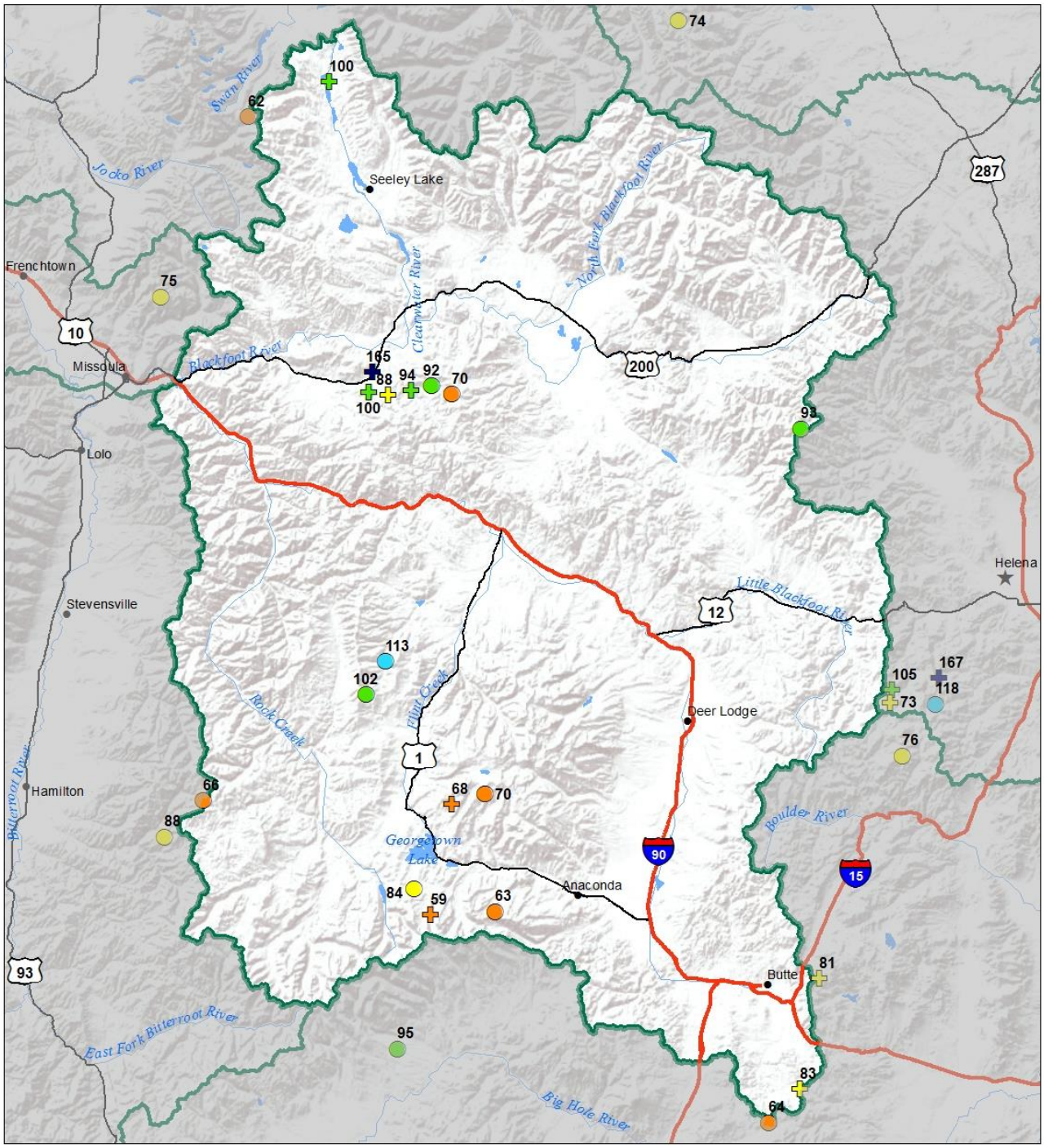


End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Upper Clark Fork River Basin
Snow Water Equivalent
Percentage of Normal
February 1, 2017



Snow Water Equivalent
Percent of Normal

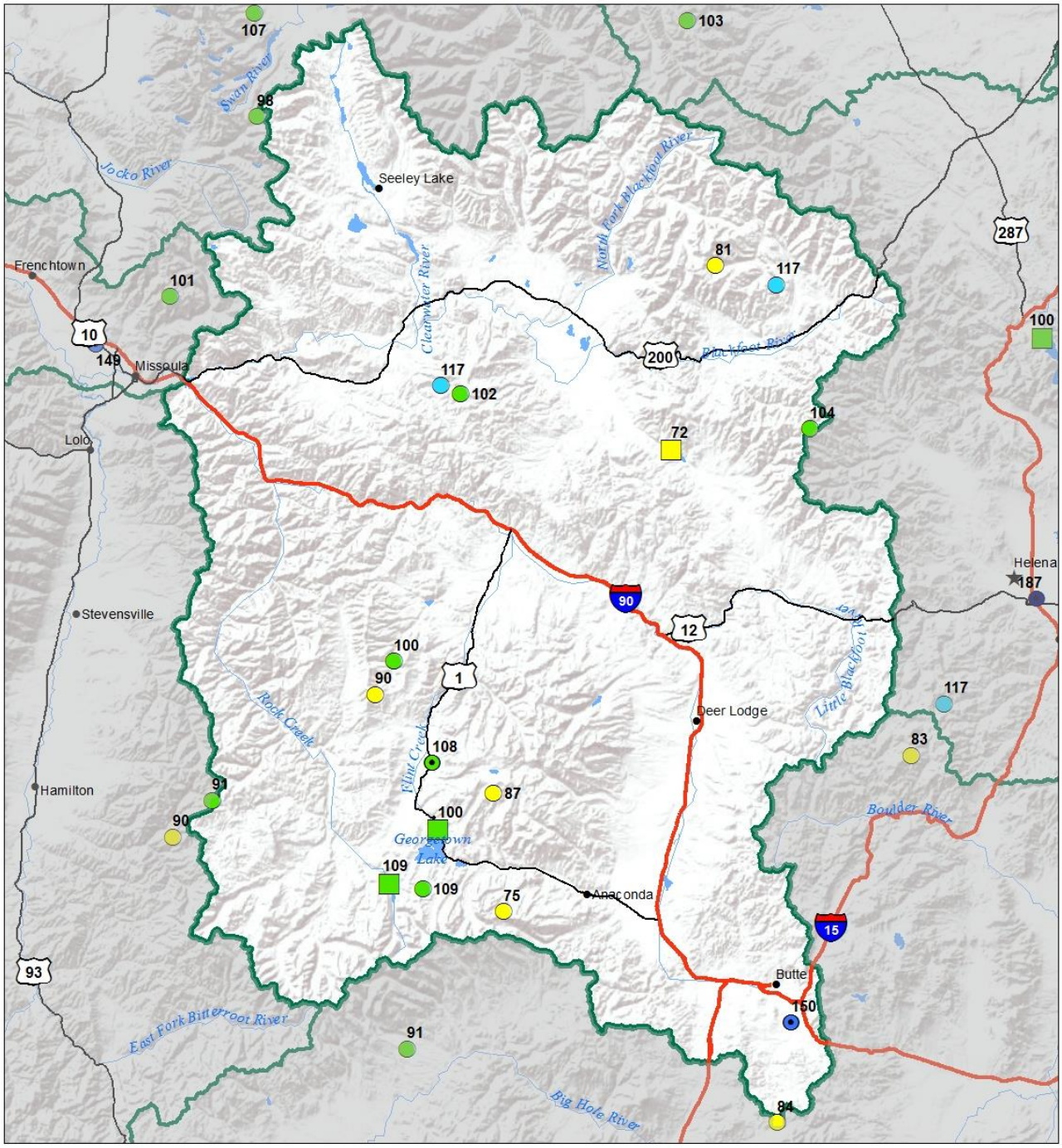
SNOTEL				Snowcourse			
> 150%	71 - 90%			> 150%	71 - 90%		
131 - 150%	51 - 70%			131 - 150%	51 - 70%		
111 - 130%	1 - 50%			111 - 130%	1 - 50%		
91 - 110%	0%			91 - 110%	0%		



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Upper Clark Fork River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

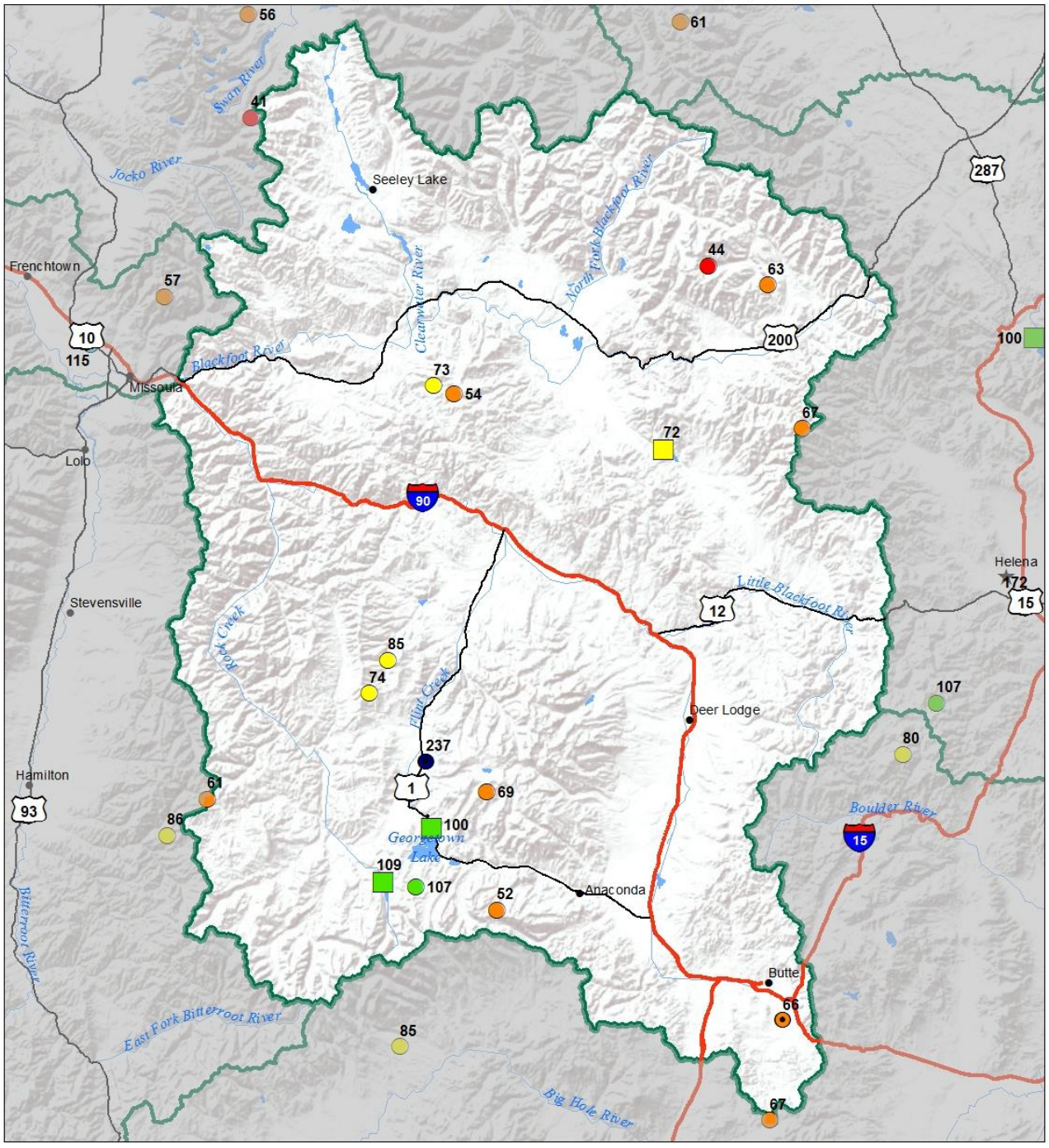
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Upper Clark Fork River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017 (January 1, 2017 - February 1, 2017)

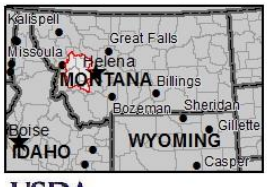


Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Bitterroot River Basin



The Bitterroot basin experience unseasonably dry conditions through January. Only one significant storm, during the second week of the month, impacted the region producing 1 - 2 inches of snow water equivalent across most mountain locations. The rest of the month was characterized by relatively low precipitation and mild temperatures. Total precipitation for the month was 50 to 60% of average. Water-year totals began the month slightly above average but by February 1st, those totals dropped significantly and are now below average.

The lack of precipitation stands out more when considering mountain SWE conditions. While total precipitation numbers were bolstered by heavy rains in October, those storms were early in the year and accompanied by warmer temperatures thus significant snowfall did not result. December brought significant storms and lifted January 1st SWE levels somewhat. By February 1st, however, the lack of moisture during the month left mountain snow conditions well below normal.

Bitterroot River Basin Data Summary

Snowpack	**Percent of 1981-2010 Normal (Median)**	**Last Year Percentage of Normal (Median)**
WEST FORK BITTERROOT	80%	104%
EAST SIDE BITTERROOT	71%	98%
WEST SIDE BITTERROOT	79%	88%
Basin-Wide	**78%**	**92%**

Precipitation	**Monthly Percentage of Average**	**WYTD Percentage of 1981-2010 Average***	**WYTD Last Year Percentage of Average**
Mountain Precipitation	49%	90%	96%
Valley Precipitation	%	%	%
Basin-Wide Precipitation	**49%**	**90%**	**96%**

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

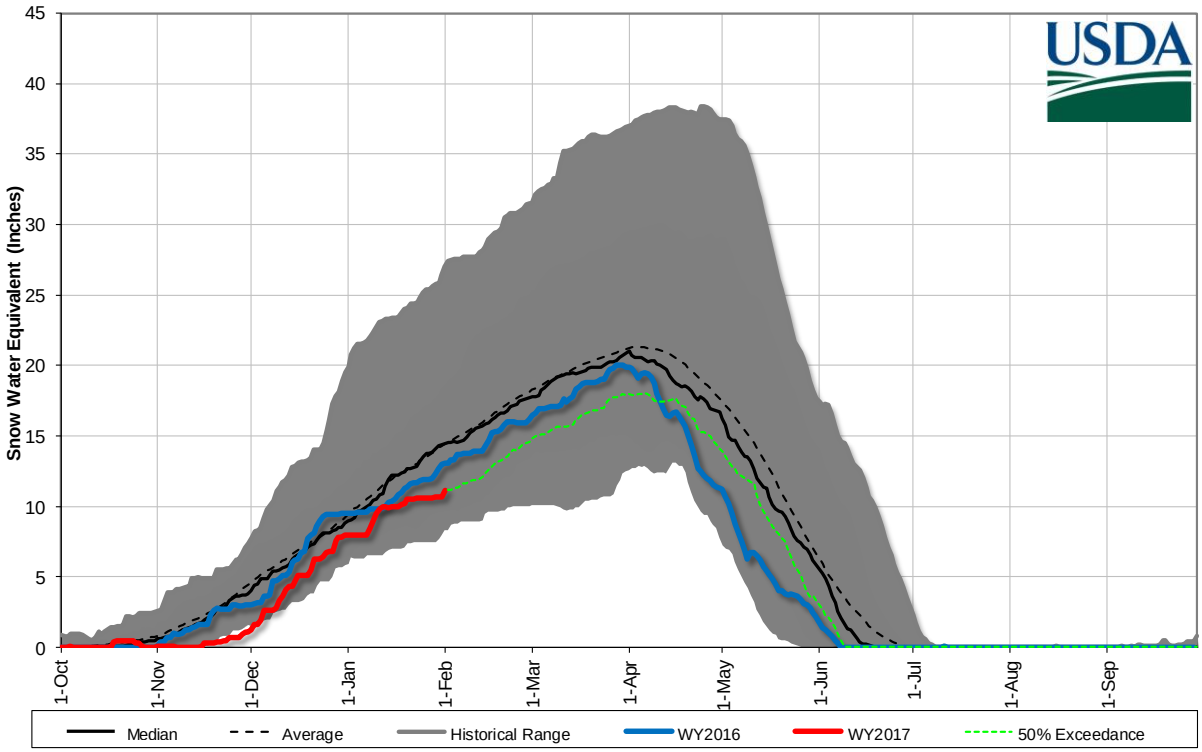
	Percentage of Average	**Percentage of Capacity (Total)**	**Last Year Percentage of Average**
Basin-Wide Storage	**102%**	**19%**	**116%**

**See Reservoir Storage Table for storage in individual reservoirs*

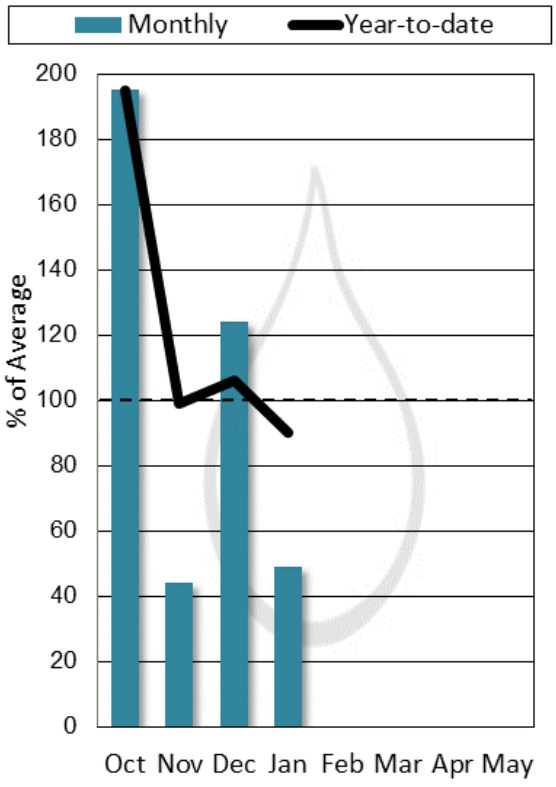
Reservoir Storage End of March, 2016	**Current (KAF)**	**Last Year (KAF)**	**Average (KAF)**	**Capacity (KAF)**	**% Average**	**% Capacity**
Painted Rocks Lake	6.0	6.8	5.9	31.7	**102%**	**19%**
Lake Como		10.3	11.0	34.9		

Bitterroot River Basin Snowpack with Non-Exceedence Projections

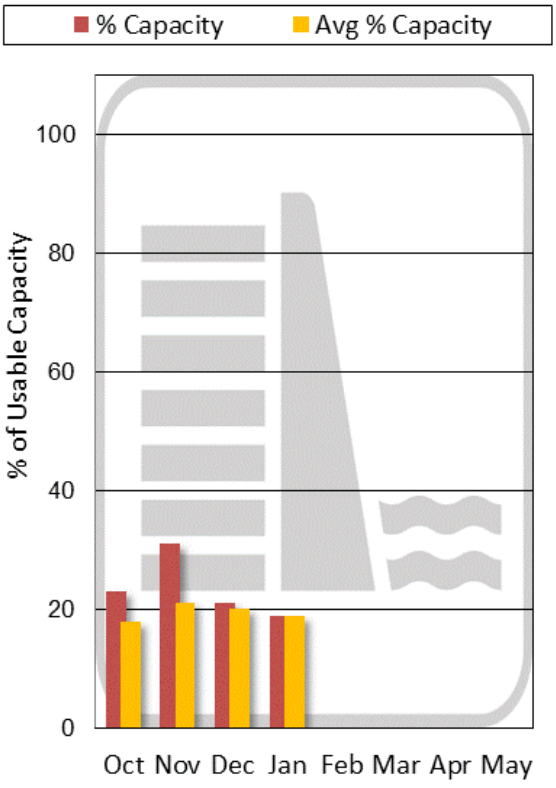
Based on provisional SNOTEL daily data as of 2/1/2017



Mountain and Valley Precipitation

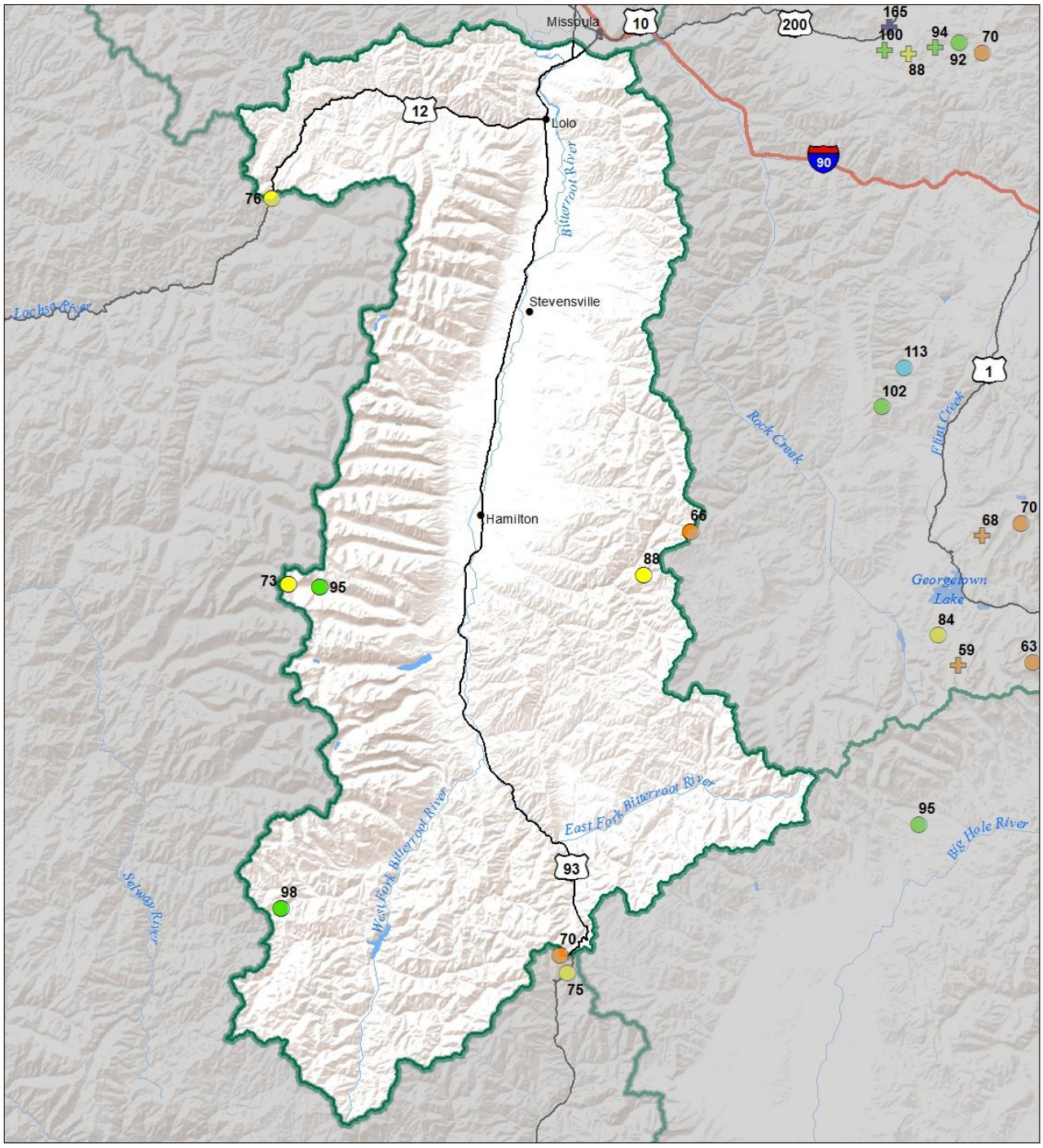


End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Bitterroot River Basin
Snow Water Equivalent
Percentage of Normal
February 1, 2017



Snow Water Equivalent
Percent of Normal

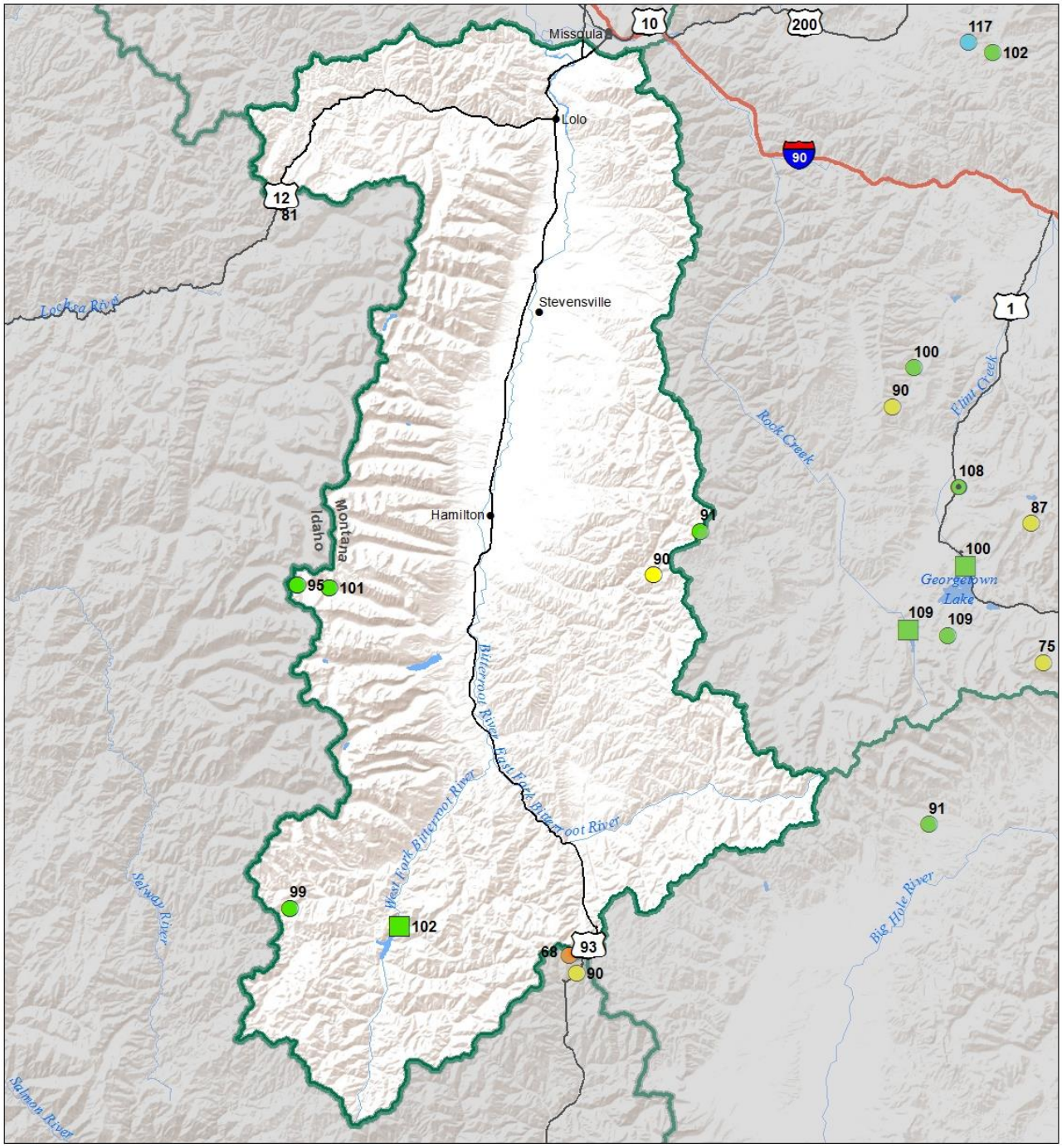
SNOTEL				Snowcourse			
> 150%	71 - 90%			> 150%	71 - 90%		
131 - 150%	51 - 70%			131 - 150%	51 - 70%		
111 - 130%	1 - 50%			111 - 130%	1 - 50%		
91 - 110%	0%			91 - 110%	0%		



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Bitterroot River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

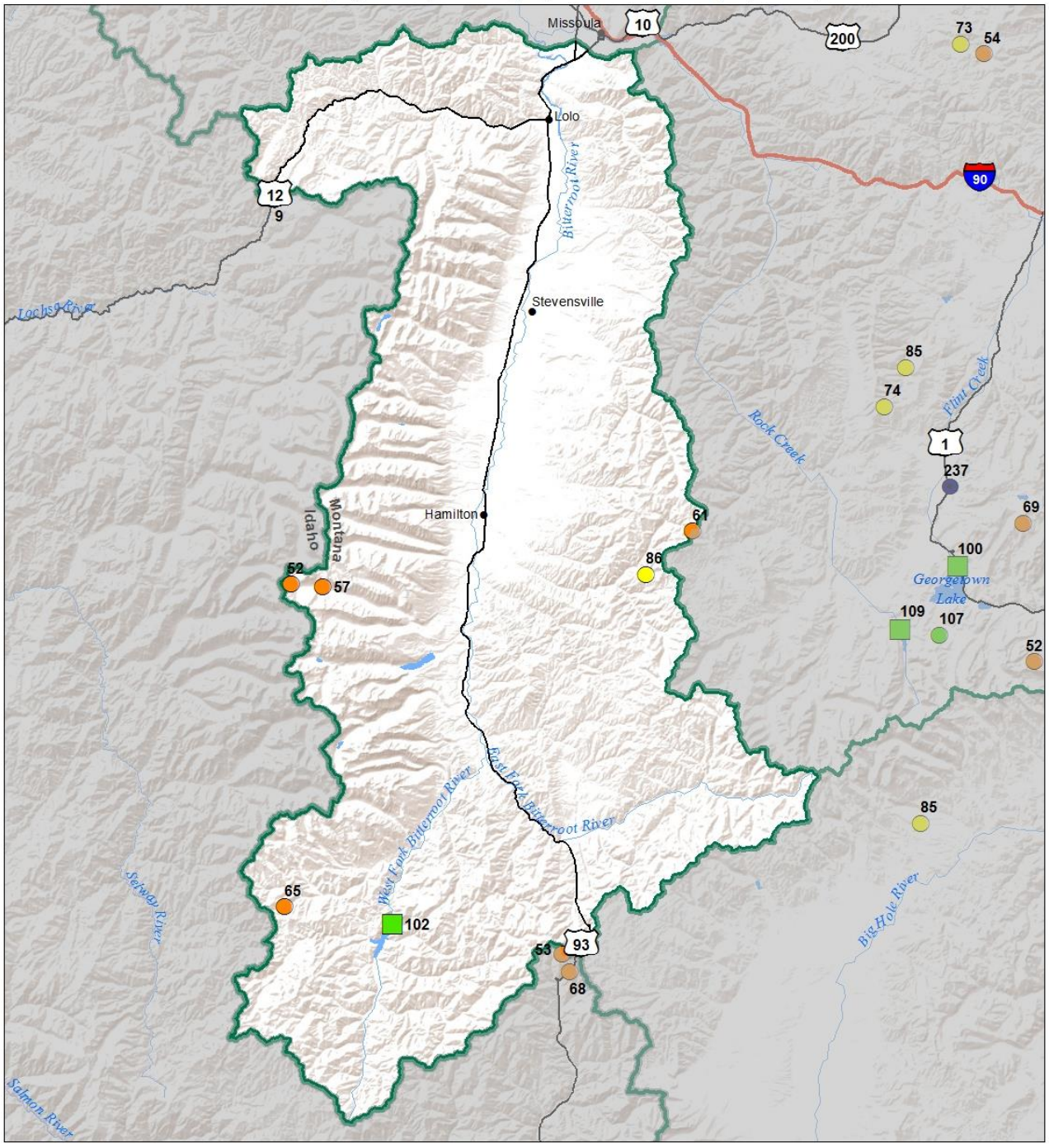
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Bitterroot River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017 (January 1, 2017 - February 1, 2017)



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Lower Clark Fork River Basin



The Lower Clark Fork basin experience unseasonably dry conditions throughout January. Only one significant storm impacted the region which produced 1 – 2 inches of precipitation. During the rest of the month most of the basin only received an additional inch of moisture. Precipitation totals for the month were 40 to 70% of average with one site registering its 2nd driest Januarys on record. Water-year totals dropped significantly when considering percent of average, but as of February 1st, were still slightly above normal.

The above average conditions for total precipitation can be misleading. Heavy rains in October bolstered precipitation numbers, however, those storms were early in the year and were accompanied by warmer temperatures thus significant snowfall did not occur. December finally brought significant snowfall and SWE levels climbed somewhat but were still below normal as January began. The dry January weather exacerbated conditions and further depressed relative SWE levels. By Feb 1st, mountain snowpack was down significantly and only 72% of normal.

Lower Clark For River Basin Data Summary

Snowpack	**Percent of 1981-2010 Normal (Median)**	**Last Year Percentage of Normal (Median)**
LOWER CLARK FORK RIVER BASIN	72%	83%
Basin-Wide	**72%**	**83%**

Precipitation	**Monthly Percentage of Average**	**WYTD Percentage of 1981-2010 Average***	**WYTD Last Year Percentage of Average**
Mountain Precipitation	44%	103%	98%
Valley Precipitation	55%	118%	96%
Basin-Wide Precipitation	**46%**	**105%**	**98%**

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

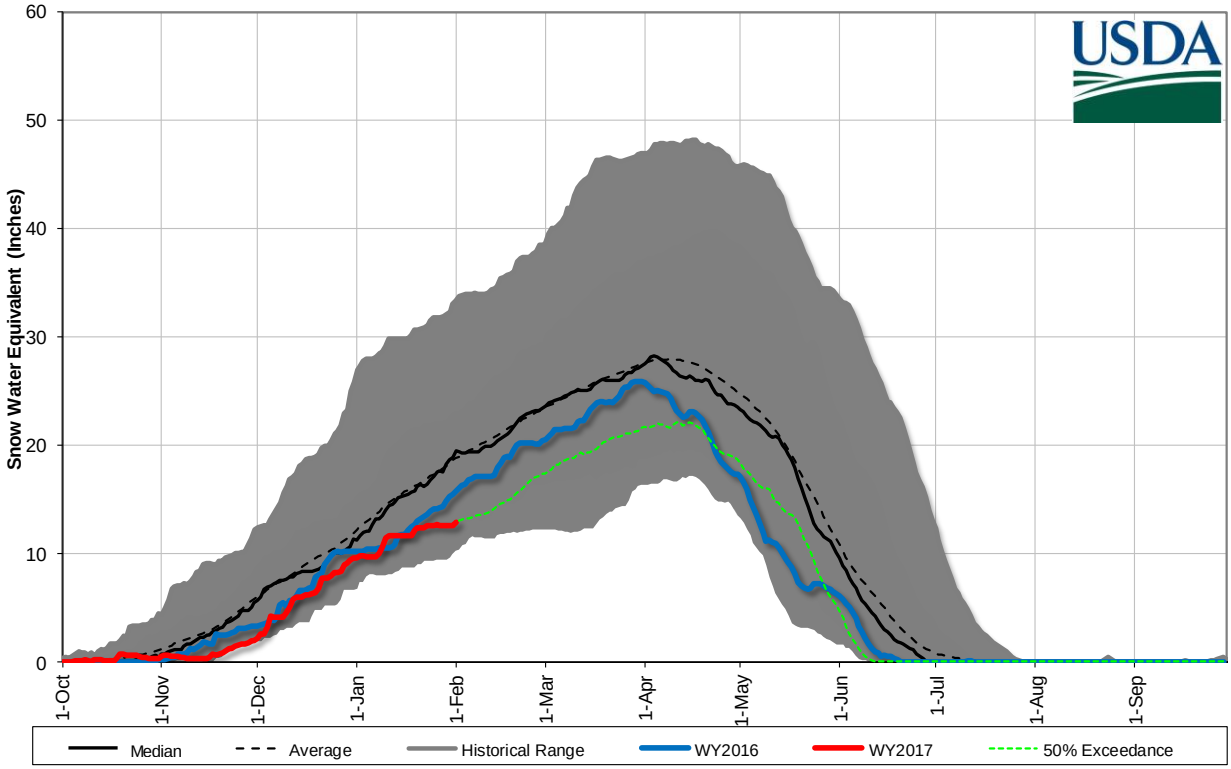
Reservoir Storage	**Percentage of Average**	**Percentage of Capacity (Total)**	**Last Year Percentage of Average**
Basin-Wide Storage	**102%**	**96%**	**103%**

**See Reservoir Storage Table for storage in individual reservoirs*

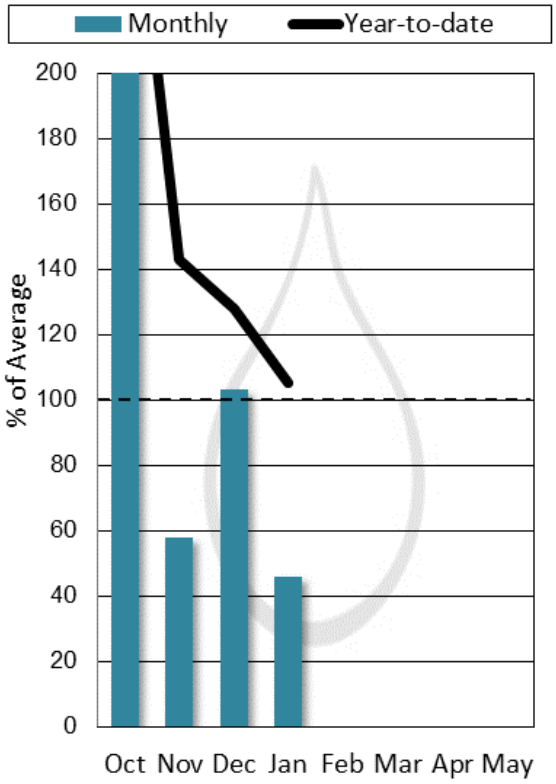
Reservoir Storage End of March, 2016	**Current (KAF)**	**Last Year (KAF)**	**Average (KAF)**	**Capacity (KAF)**	**% Average**	**% Capacity**
Noxon Rapids Reservoir	321	324.512	315	335	**102%**	**96%**

Lower Clark Fork River Basin Snowpack with Non-Exceedence Projections

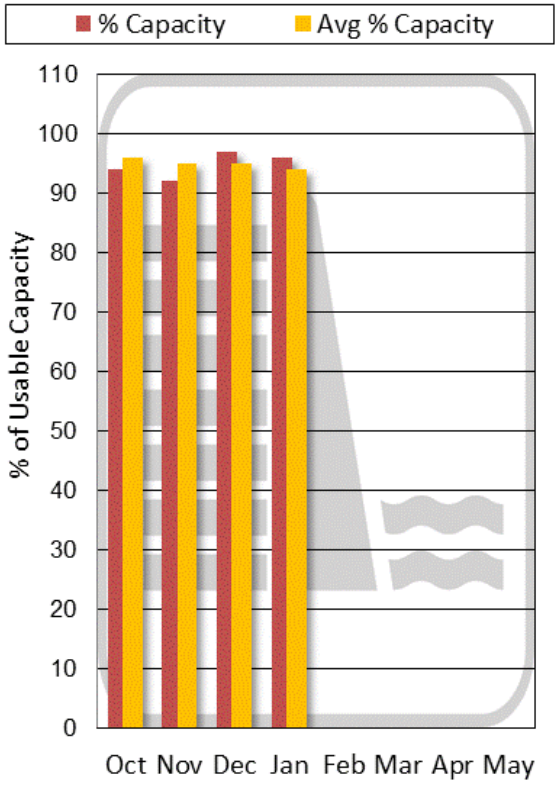
Based on provisional SNOTEL daily data as of 2/1/2017



Mountain and Valley Precipitation

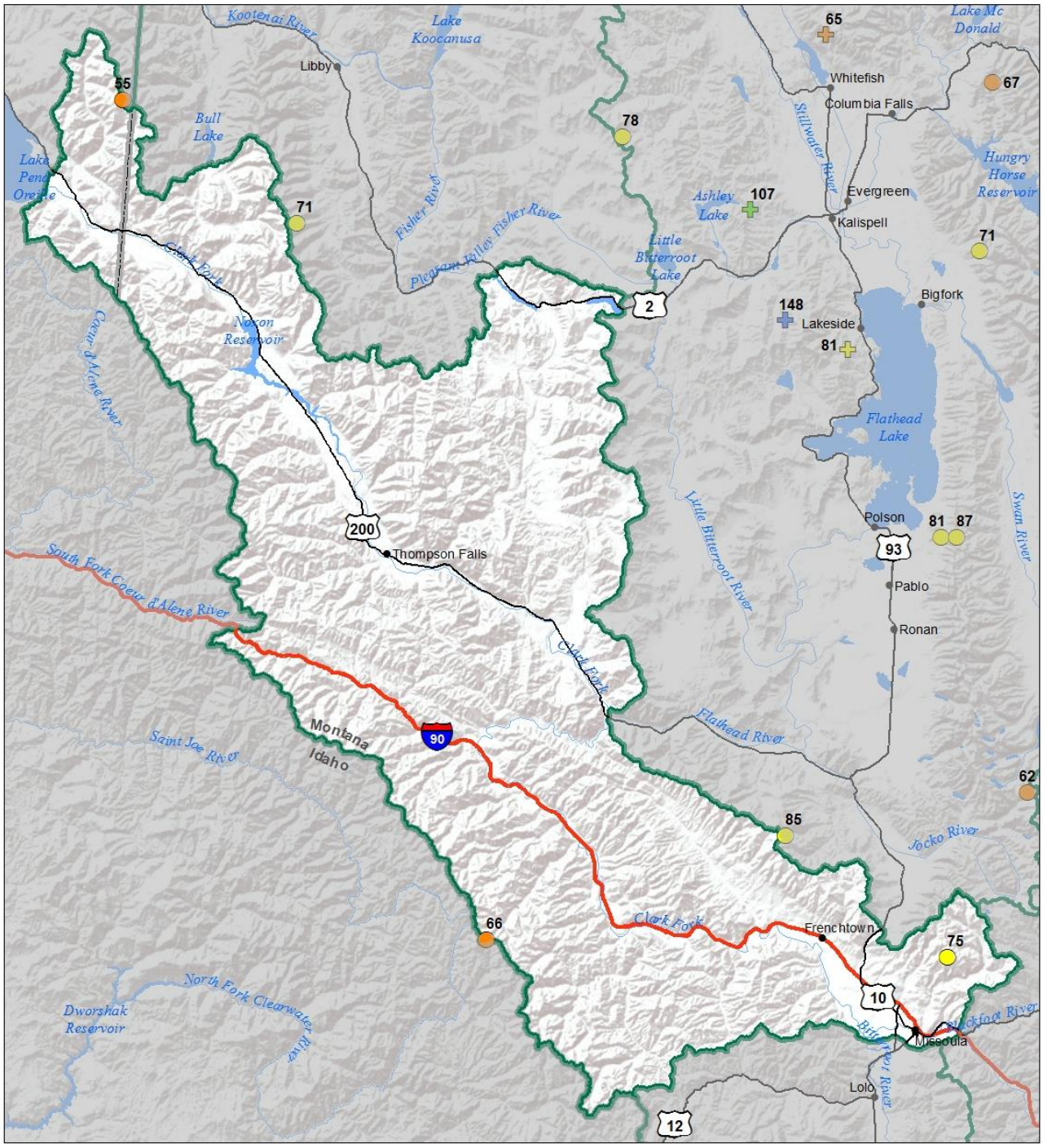


End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Lower Clark Fork River Basin
Snow Water Equivalent
Percentage of Normal
February 1, 2017



Snow Water Equivalent
Percent of Normal

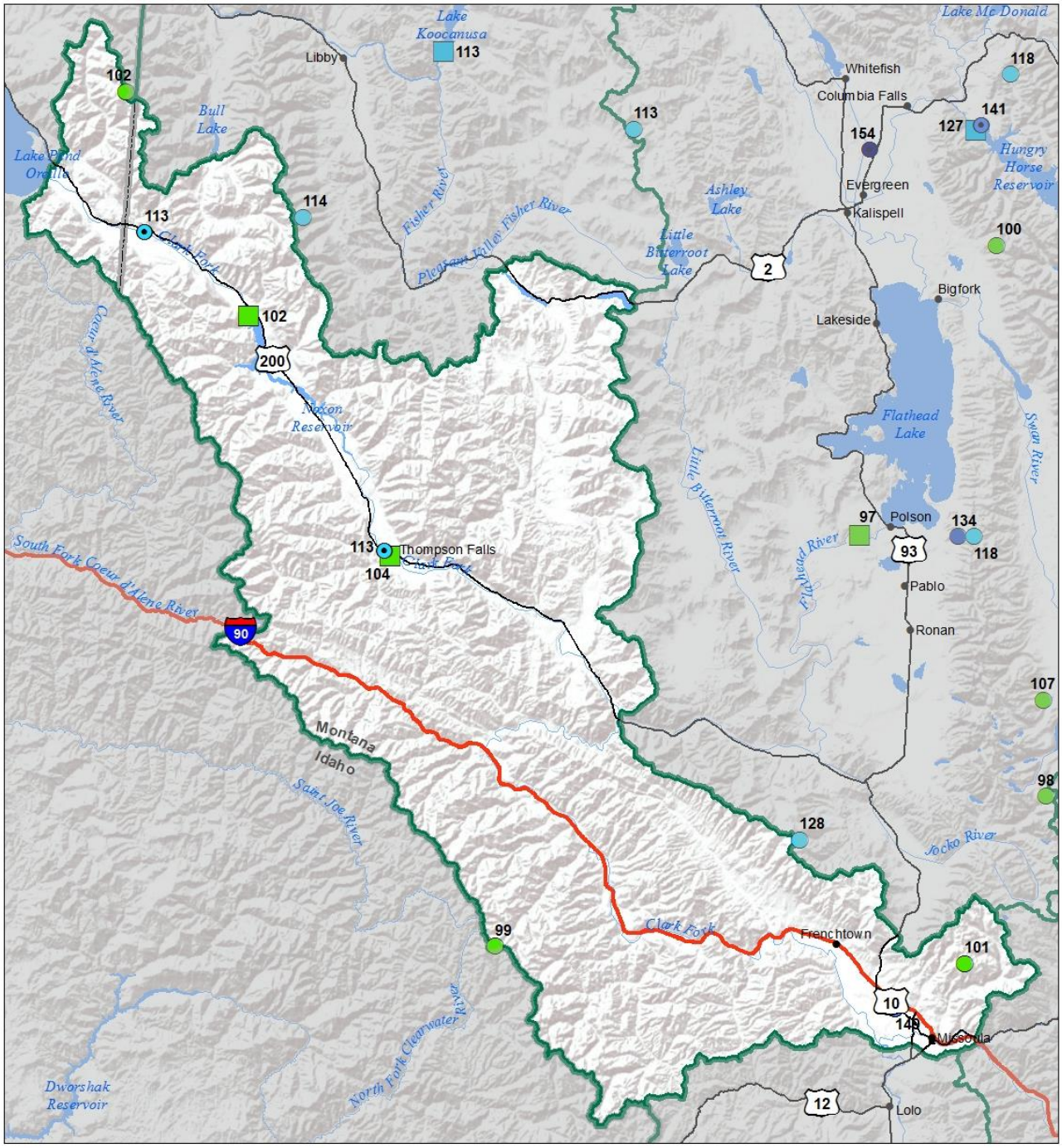
SNOTEL				Snowcourse			
> 150%	71 - 90%			> 150%	71 - 90%		
131 - 150%	51 - 70%			131 - 150%	51 - 70%		
111 - 130%	1 - 50%			111 - 130%	1 - 50%		
91 - 110%	0%			91 - 110%	0%		



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Lower Clark Fork River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

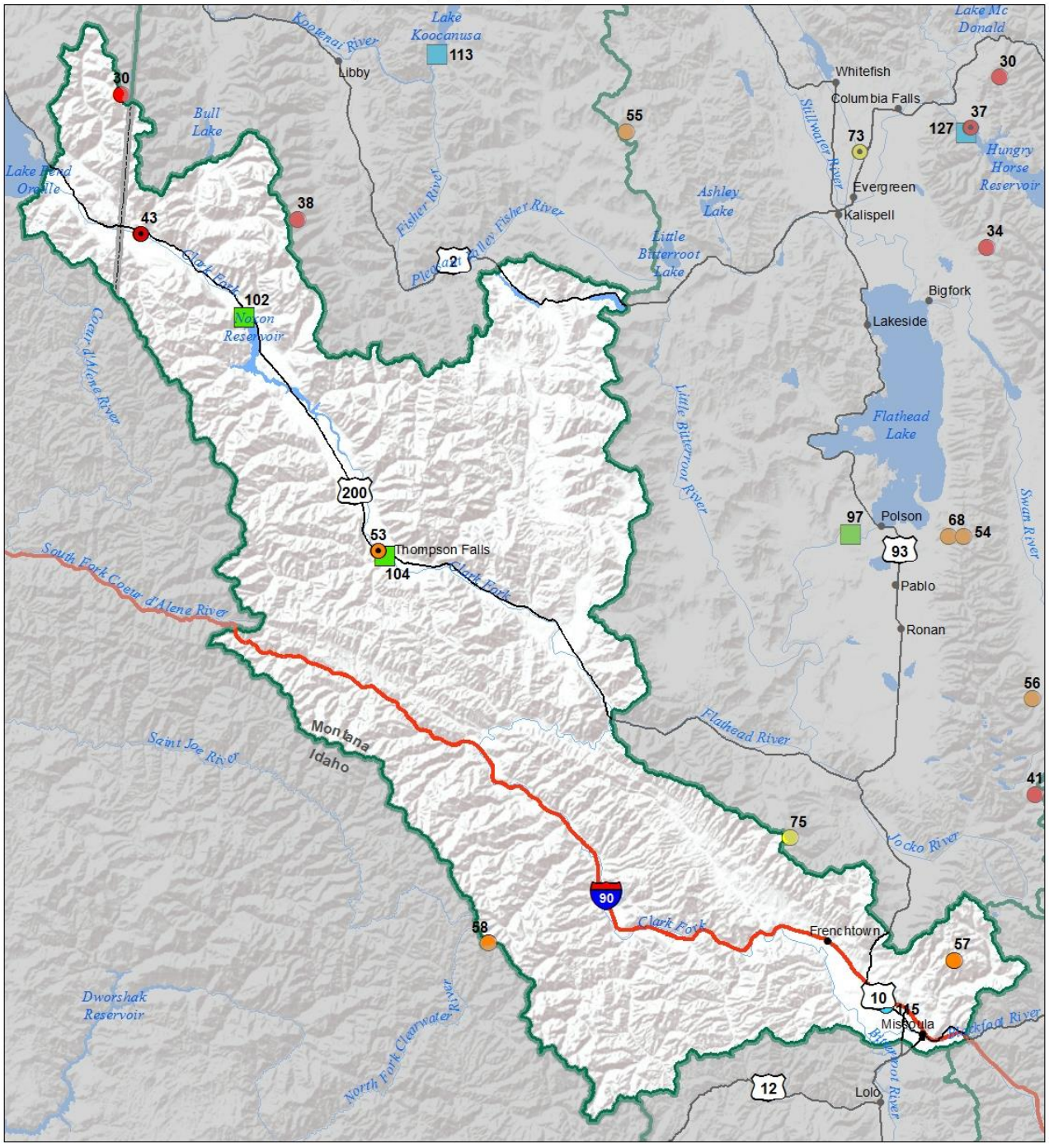
Reservoirs
Percent of Normal

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Lower Clark Fork River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017 (January 1, 2017 - February 1, 2017)



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

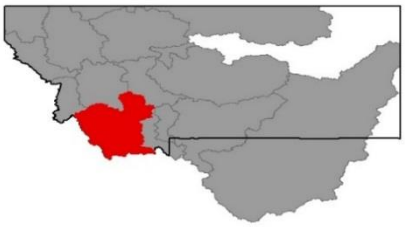
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Jefferson River Basin



The snowpack varies widely across the Jefferson River basin, ranges along the western and southern border with Idaho were favored with regards to snowfall over the month, while ranges further east and north were a little too far north of the dominant storm pattern to receive meaningful snowfall. The headwaters of the Big Hole River and Horse Prairie Creek have the highest snowpack at this time, while the Ruby River basin has a snowpack that is well below normal for this date (68%). Two SNOTEL sites in the Ruby River basin have the second lowest snow water equivalent on record for February 1st, and are 64-66% of normal.

Only one major storm fell during that period during the second week, which made up the bulk of the snowpack gain for January. Fortunately, as the month ended, a return was made to a more favorable weather pattern, and February started with snow in the high country and valleys. Overall, the Jefferson River basin is up 3% from last month with regards to snowpack, and water year-to-date precipitation is near to above average at most locations due to abundant late fall and early winter precipitation.

Jefferson River Basin Data Summary

Snowpack	**Percent of 1981-2010 Normal (Median)**	**Last Year Percentage of Normal (Median)**
BEAVERHEAD	88%	111%
RUBY	68%	99%
BIGHOLE	80%	115%
BOULDER	81%	132%
Basin-Wide	**79%**	**112%**

Precipitation	**Monthly Percentage of Average**	**WYTD Percentage of 1981-2010 Average***	**WYTD Last Year Percentage of Average**
Mountain Precipitation	82%	106%	103%
Valley Precipitation	137%	198%	155%
Basin-Wide Precipitation	**83%**	**108%**	**104%**

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

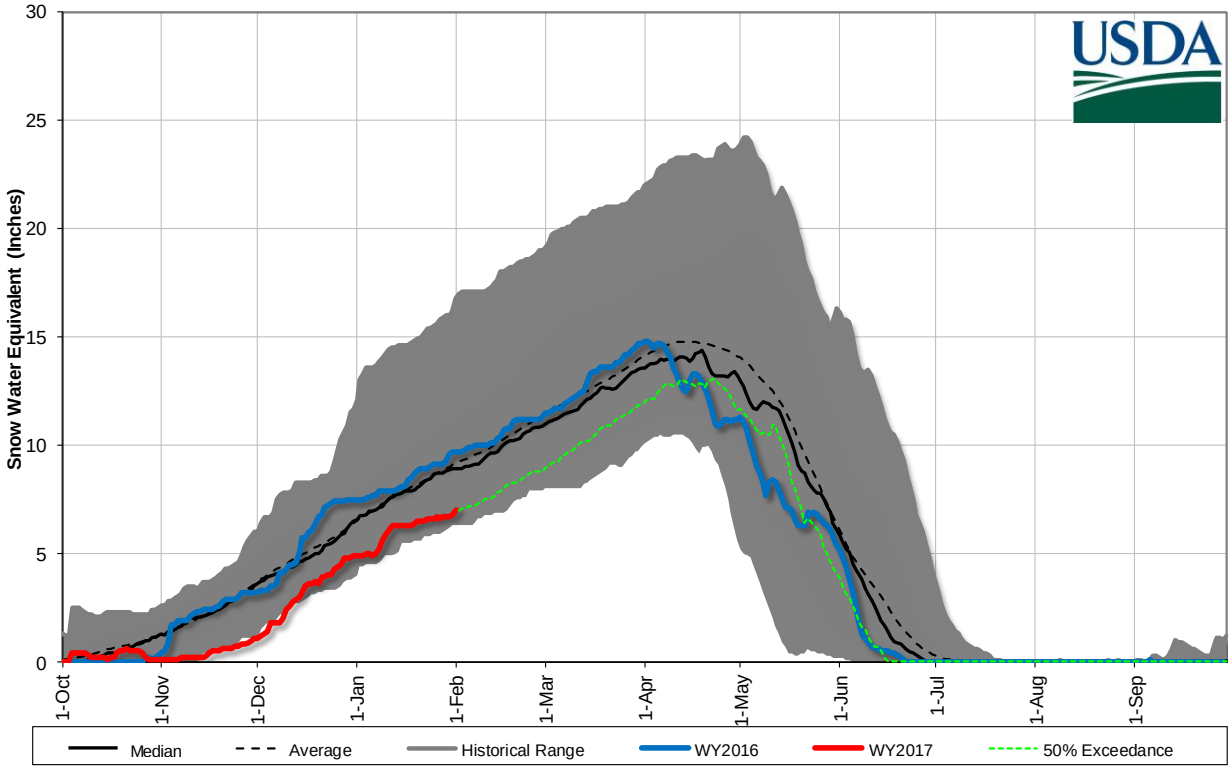
Reservoir Storage	**Percentage of Average**	**Percentage of Capacity (Total)**	**Last Year Percentage of Average**
Basin-Wide Storage	**89%**	**41%**	**81%**

**See Reservoir Storage Table for storage in individual reservoirs*

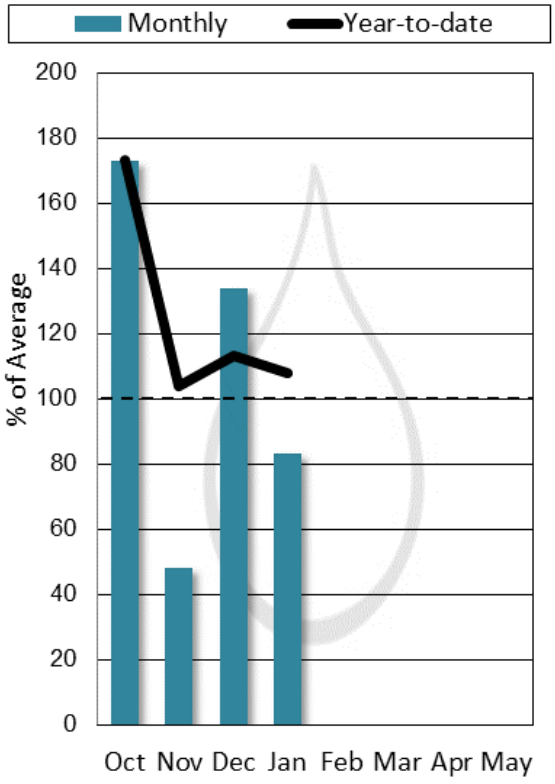
Reservoir Storage End of March, 2016	**Current (KAF)**	**Last Year (KAF)**	**Average (KAF)**	**Capacity (KAF)**	**% Average**	**% Capacity**
Lima Reservoir	34.5	20.7	29.3	84.0	**118%**	**41%**
Clark Canyon Res	96.0	94.2	121.7	255.6	**79%**	**38%**
Ruby River Reservoir	25.3	25.6	23.2	38.8	**109%**	**65%**

Jefferson River Basin Snowpack with Non-Exceedence Projections

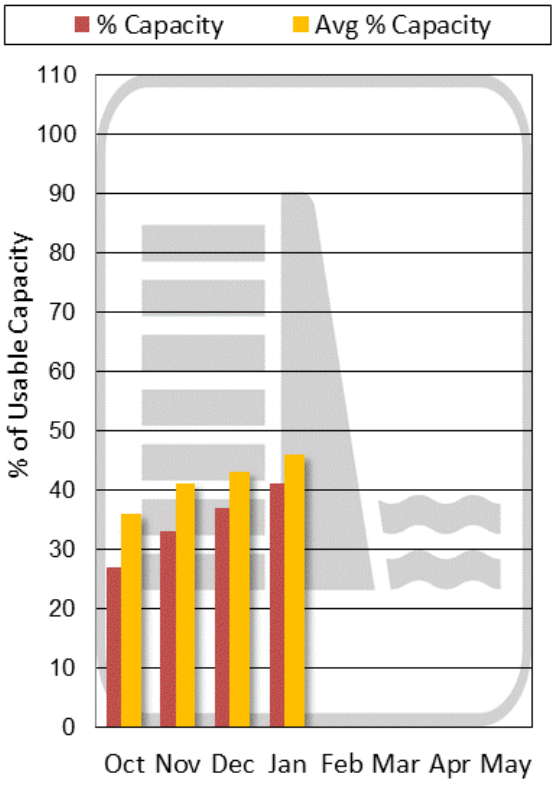
Based on provisional SNOTEL daily data as of 2/1/2017



Mountain and Valley Precipitation

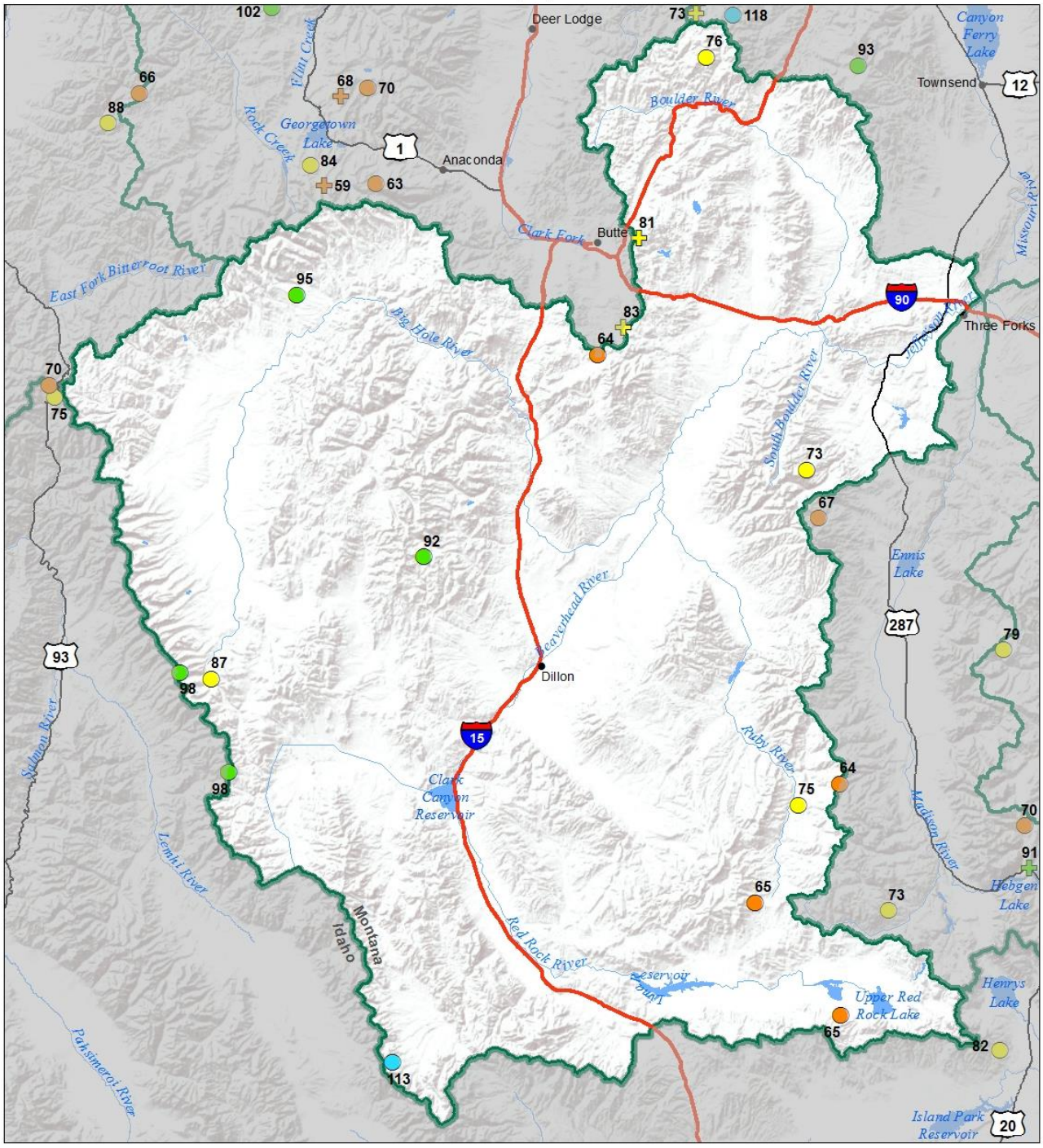


End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Jefferson River Basin
Snow Water Equivalent
Percentage of Normal
February 1, 2017



Snow Water Equivalent
Percent of Normal

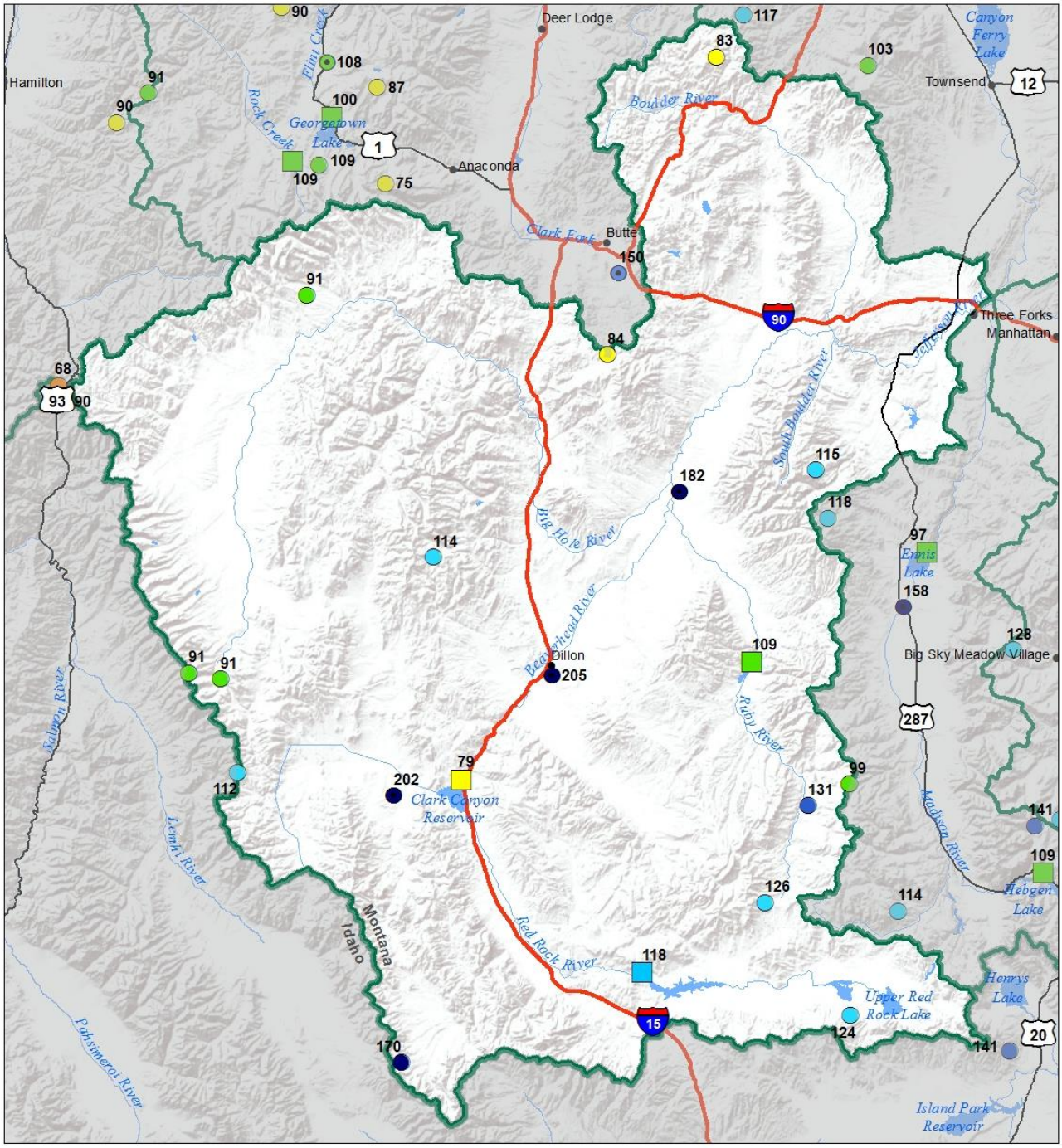
SNOTEL				Snowcourse			
> 150%	71 - 90%			> 150%	71 - 90%		
131 - 150%	51 - 70%			131 - 150%	51 - 70%		
111 - 130%	1 - 50%			111 - 130%	1 - 50%		
91 - 110%	0%			91 - 110%	0%		



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Jefferson River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

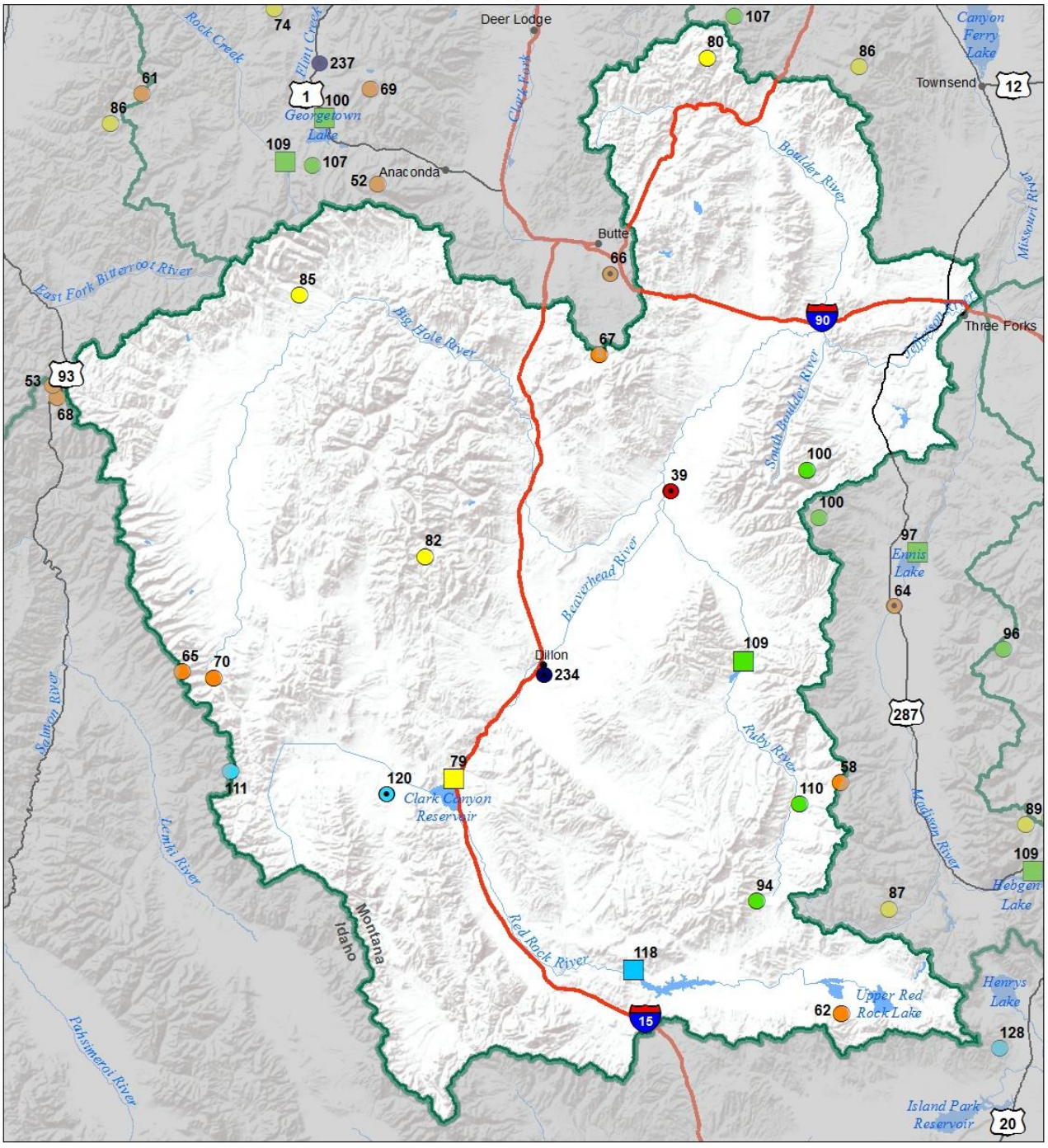
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Jefferson River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017 (January 1, 2017 - February 1, 2017)



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

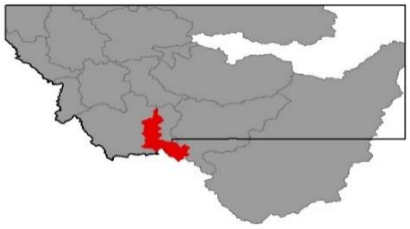
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Madison River Basin



The southern half of the Madison River basin (above Hebgen Lake) experienced above average snowfall during the month of January, while the northern half received below normal snowfall. SNOTEL sites along the southern border on the Madison Plateau and in Yellowstone National Park were close enough to the storm systems passing south of Montana that they received 110 to 125% of normal snowfall for the month, and were some of the only sites to receive near to above average snowfall in the state. Snowpack above Hebgen Reservoir is currently 102% of normal, while below the snowpack in the northern Madison and Gravelly Ranges is 75% of normal. Water year-to-date precipitation remains well above average at many locations due to the late fall and early winter precipitation.

Madison River Basin Data Summary

Snowpack	**Percent of 1981-2010 Normal (Median)**	**Last Year Percentage of Normal (Median)**
MADISON abv HEBGEN LAKE	102%	95%
MADISON blw HEBGEN LAKE	75%	95%
Basin-Wide	**87%**	**95%**

Precipitation	**Monthly Percentage of Average**	**WYTD Percentage of 1981-2010 Average***	**WYTD Last Year Percentage of Average**
Mountain Precipitation	89%	125%	97%
Valley Precipitation	124%	173%	91%
Basin-Wide Precipitation	**91%**	**129%**	**97%**

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

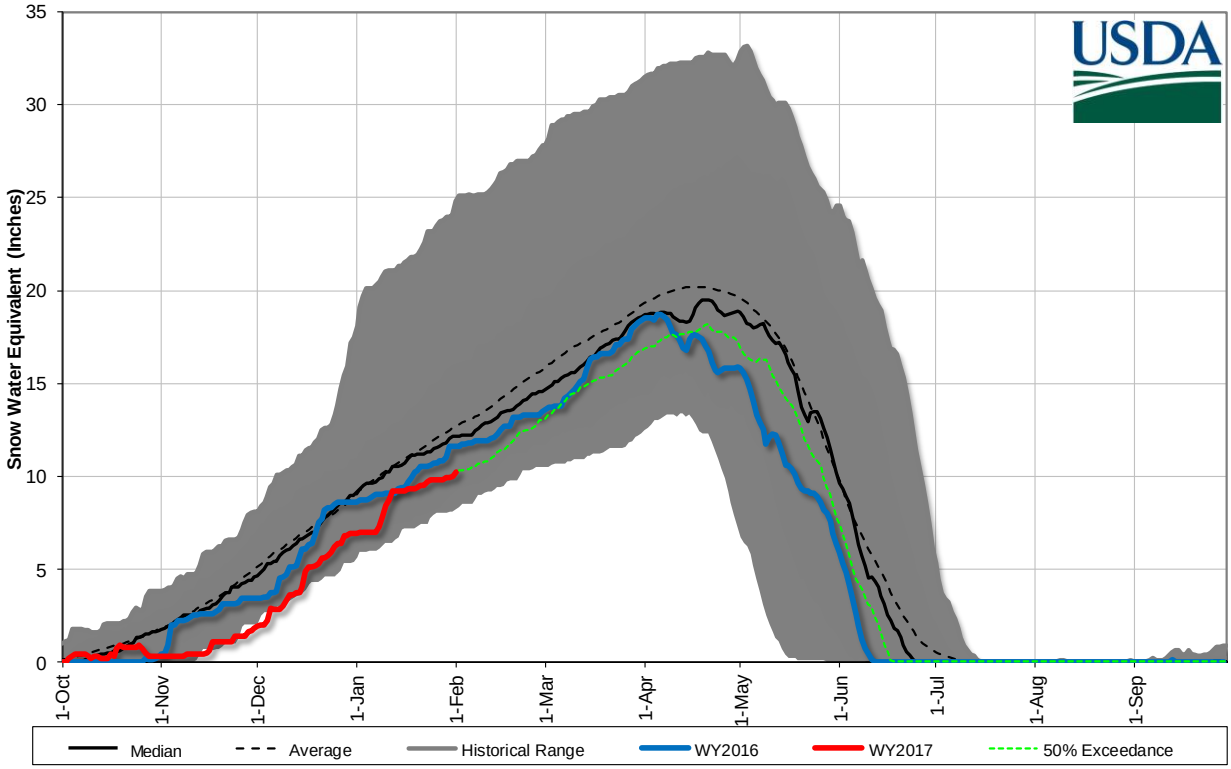
Reservoir Storage	**Percentage of Average**	**Percentage of Capacity (Total)**	**Last Year Percentage of Average**
Basin-Wide Storage	**108%**	**80%**	**110%**

**See Reservoir Storage Table for storage in individual reservoirs*

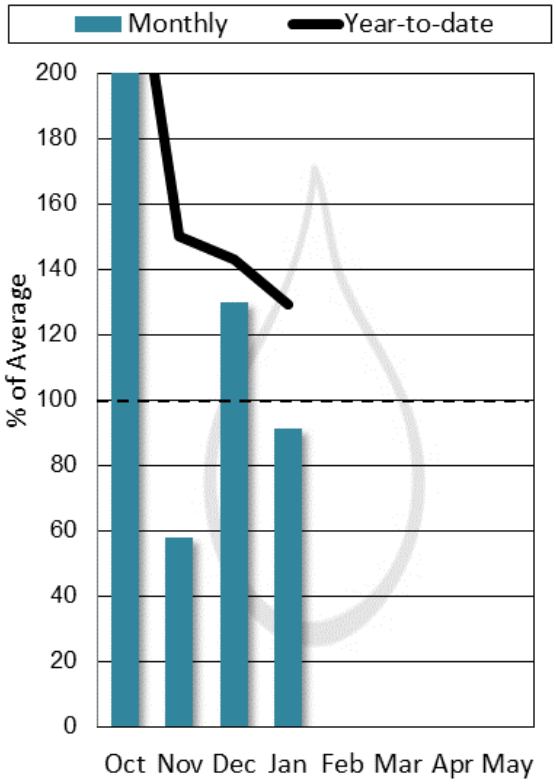
Ennis Lake	28.9	28.9	29.8	41.0	**97%**	**70%**
Hebgen Lake	305.2	310.9	279.0	378.8	**109%**	**81%**

Madison River Basin Snowpack with Non-Exceedence Projections

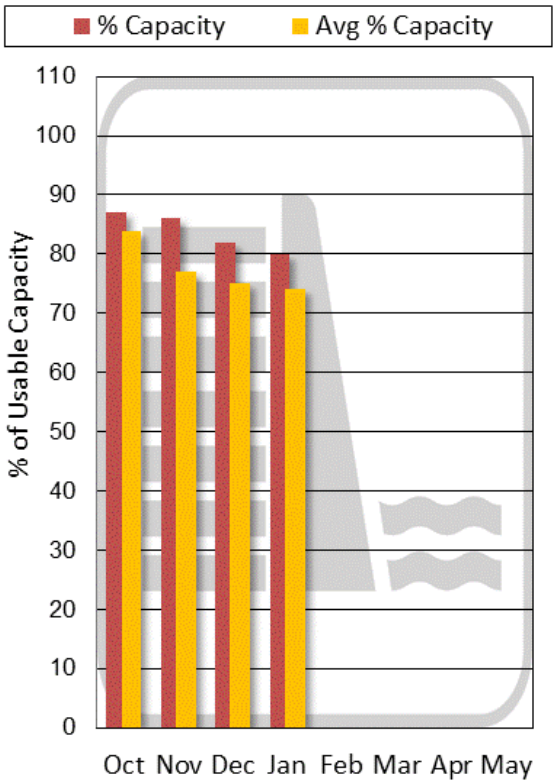
Based on provisional SNOTEL daily data as of 2/1/2017



Mountain and Valley Precipitation

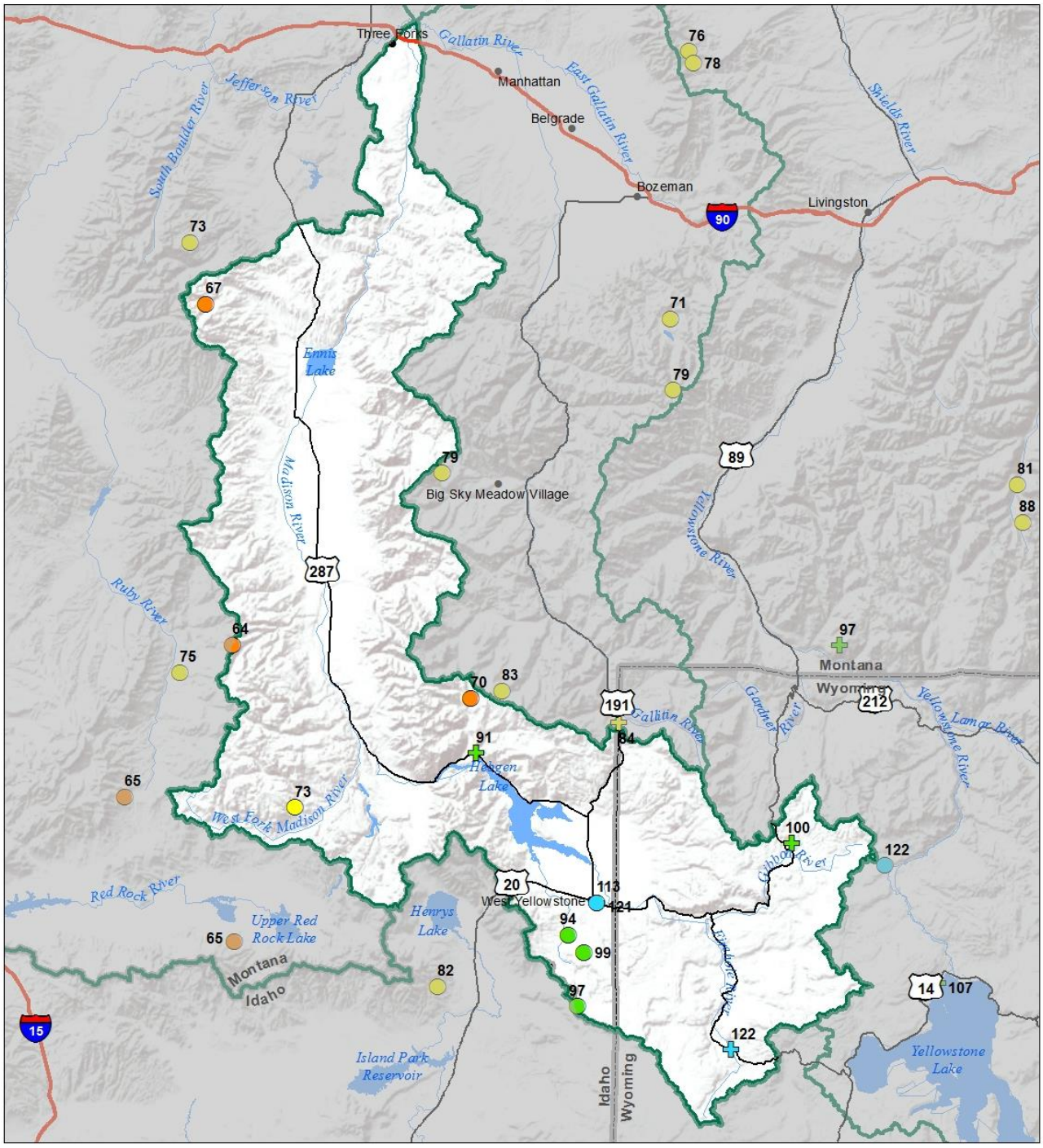


End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Madison River Basin
Snow Water Equivalent
Percentage of Normal
February 1, 2017



Snow Water Equivalent
Percent of Normal

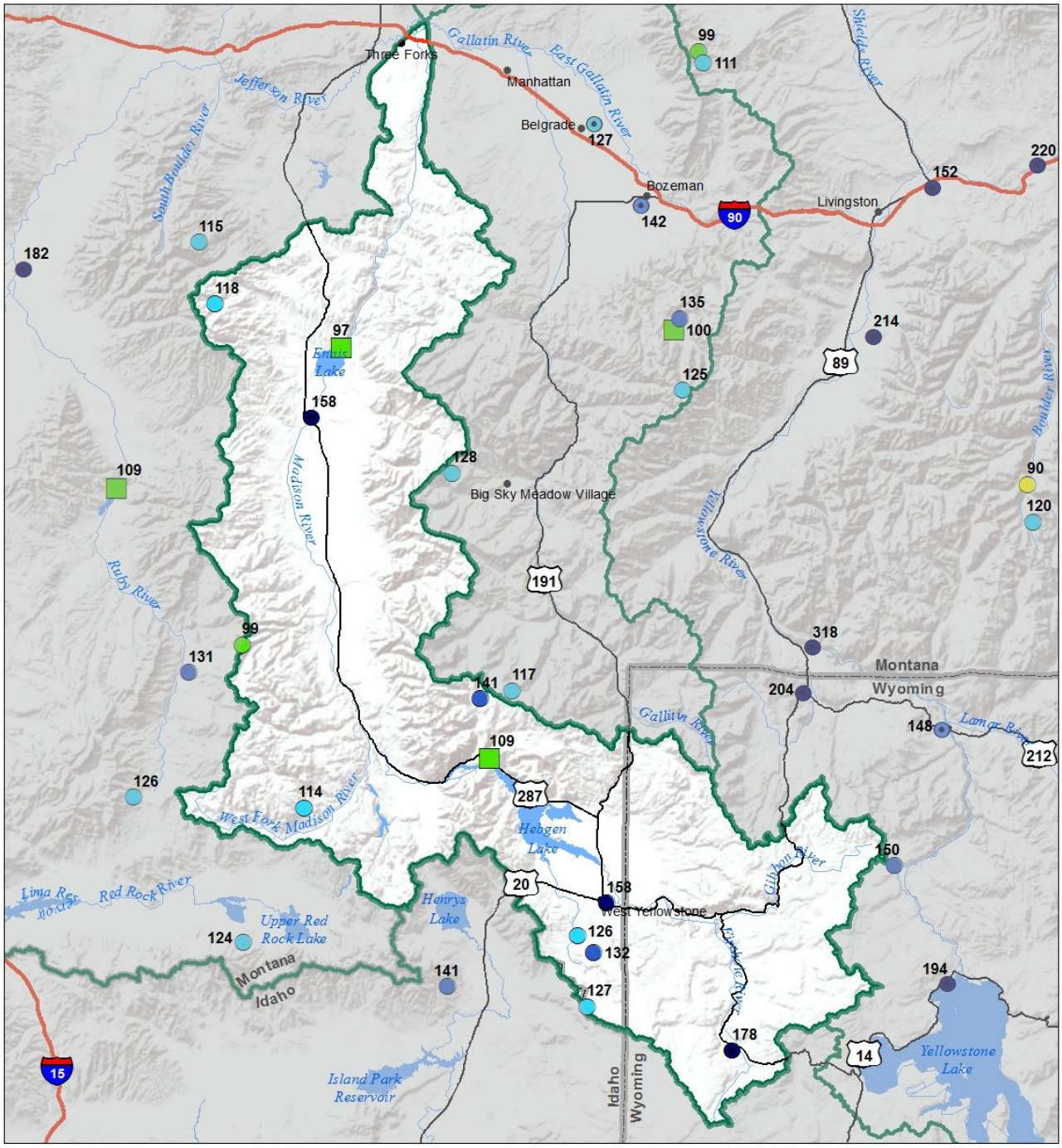
SNOTEL				Snowcourse			
> 150%	71 - 90%			> 150%	71 - 90%		
131 - 150%	51 - 70%			131 - 150%	51 - 70%		
111 - 130%	1 - 50%			111 - 130%	1 - 50%		
91 - 110%	0%			91 - 110%	0%		



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Madison River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

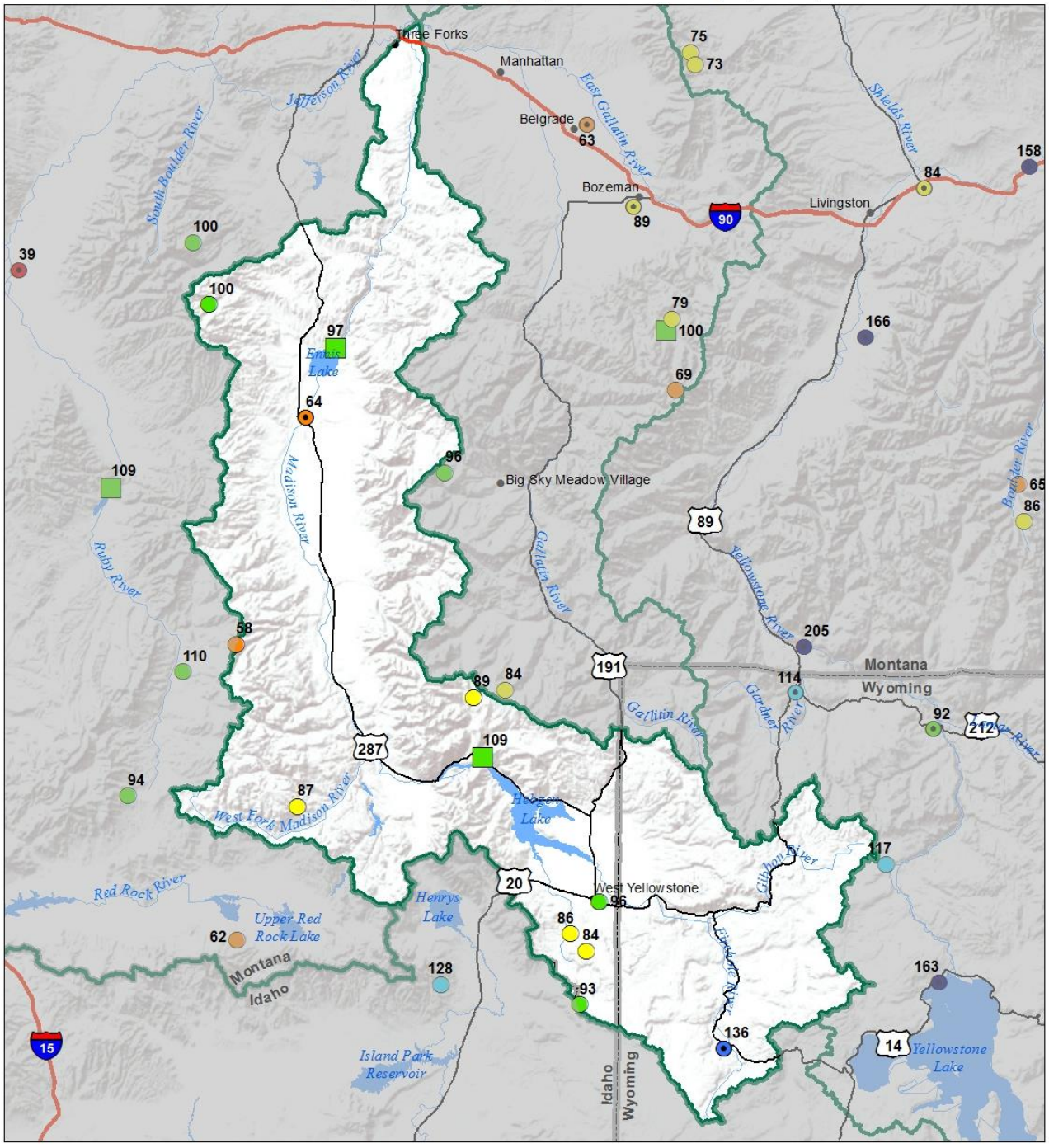
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
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Madison River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017 (January 1, 2017 - February 1, 2017)



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

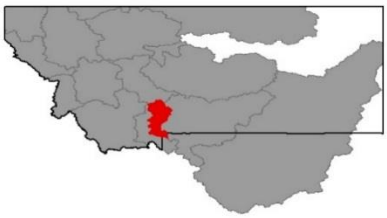
Reservoirs
Percent of Normal

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Gallatin River Basin

Due to the warm temperatures and dry conditions of November, snowpack got off to a very slow start in the Gallatin River basin, and the basin has been behind with regards to snowpack ever since. While there was some marginal improvement during the month of January, the mostly cold and dry conditions experienced during the month left the snowpack below normal for Feb 1st. Basin-wide snowpack, which looks at the combined Upper Gallatin, Hyalite and Bridger Range has been close to the lowest on record through this winter, and was approaching the lowest on record at mountain SNOTEL sites on Feb 1st. The reprieve from the dry conditions at the end of the month was enough to keep this from happening at most sites. The bad news is, the snowpack in the Hyalite Creek Basin which supplies irrigators and part of the city of Bozeman's water supply is well below normal for this date. Lick Creek SNOTEL (71%) is currently the second lowest on record, and Shower Falls SNOTEL (79%) is the tied for the lowest on Feb 1st SWE with 1981. It speaks volumes that even though they are ranked low, percentage wise they aren't that far off, and that speaks to the snowfall consistency in the basin.

There is a lot of time to make up ground this spring when the basin is favored for snow and precipitation, but above average snowfall will be needed to make up some of these deficits in snowpack. Even though snowpack is disappointing, the consolation prize is that due to early season October moisture and above normal December snowfall water year-to-date precipitation is still near to above average across the basin.

Gallatin River Basin Data Summary

Snowpack	**Percent of 1981-2010 Normal (Median)**	**Last Year Percentage of Normal (Median)**
UPPER GALLATIN	79%	94%
HYALITE	76%	93%
BRIDGER	77%	110%
Basin-Wide	**78%**	**97%**

Precipitation	**Monthly Percentage of Average**	**WYTD Percentage of 1981-2010 Average***	**WYTD Last Year Percentage of Average**
Mountain Precipitation	80%	121%	106%
Valley Precipitation	79%	136%	117%
Basin-Wide Precipitation	**80%**	**122%**	**107%**

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

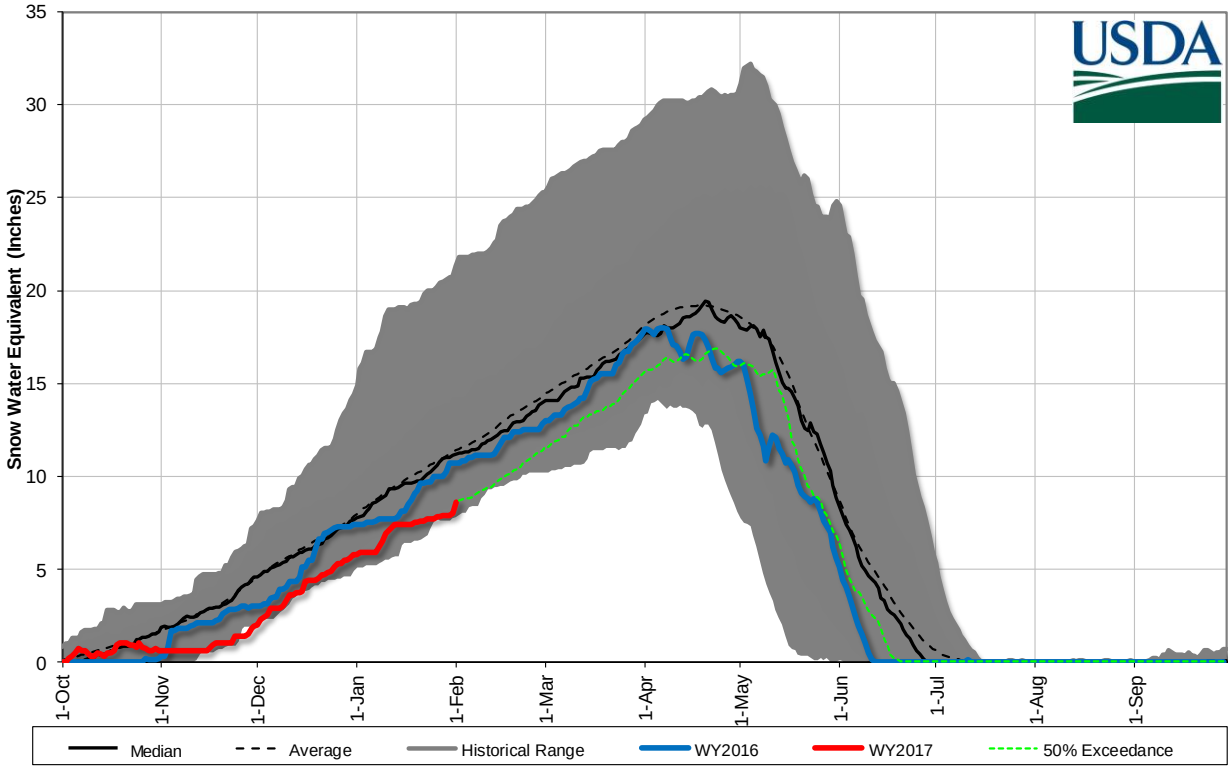
Reservoir Storage	**Percentage of Average**	**Percentage of Capacity (Total)**	**Last Year Percentage of Average**
Basin-Wide Storage	**100%**	**52%**	**105%**

**See Reservoir Storage Table for storage in individual reservoirs*

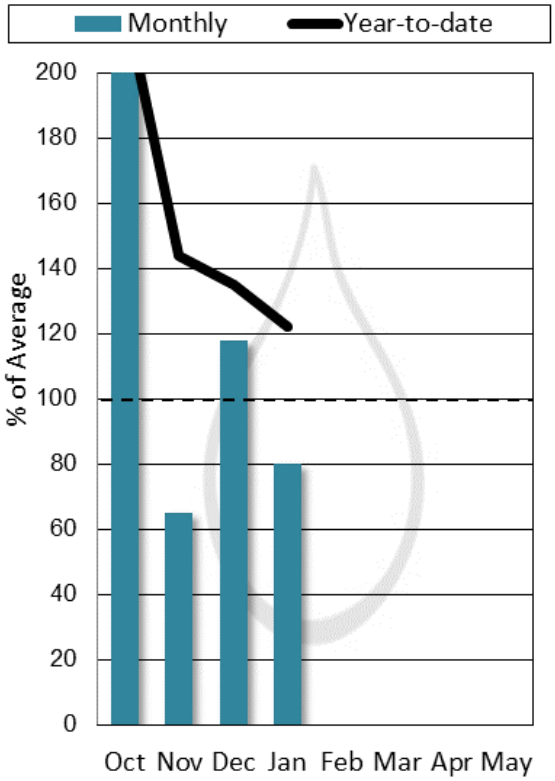
Middle Creek Res	5.3	5.5	5.3	10.2	**100%**	**52%**

Gallatin River Basin Snowpack with Non-Exceedence Projections

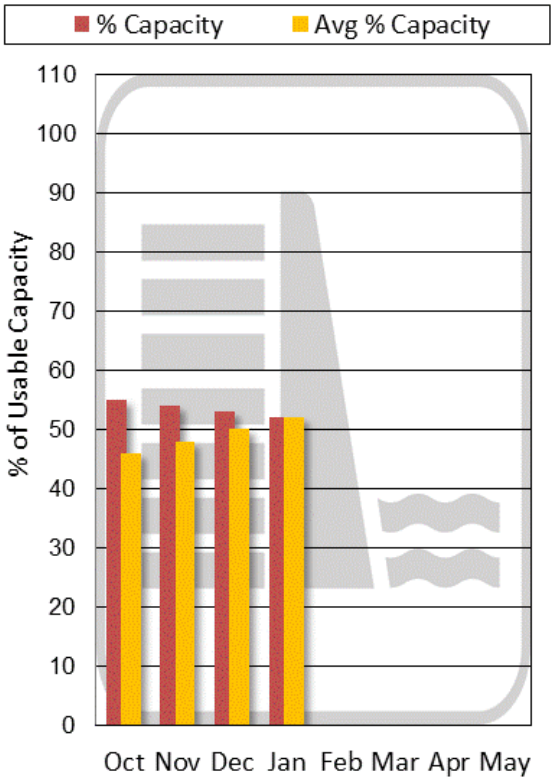
Based on provisional SNOTEL daily data as of 2/1/2017



Mountain and Valley Precipitation

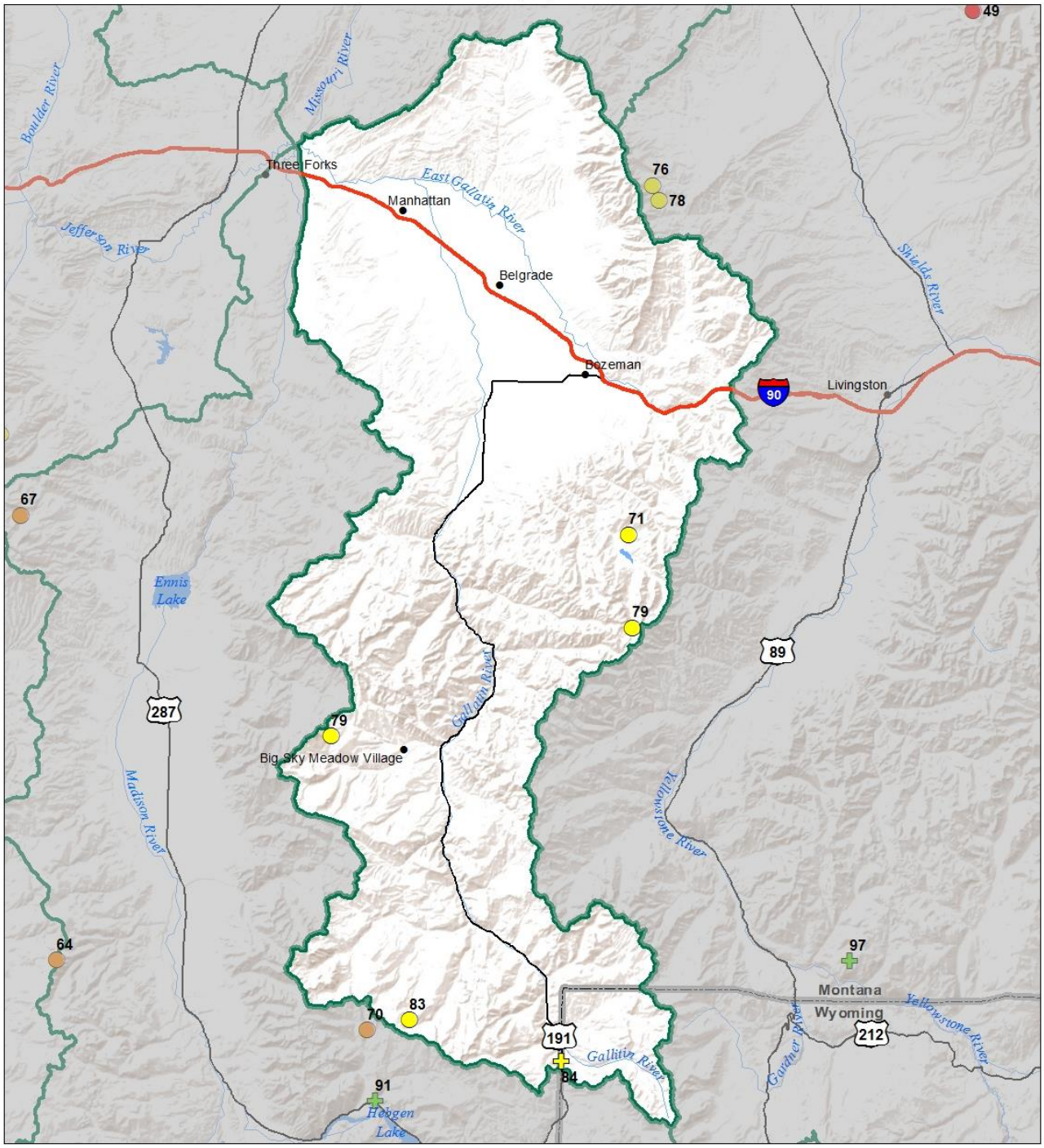


End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Gallatin River Basin
Snow Water Equivalent
Percentage of Normal
February 1, 2017



Snow Water Equivalent
Percent of Normal

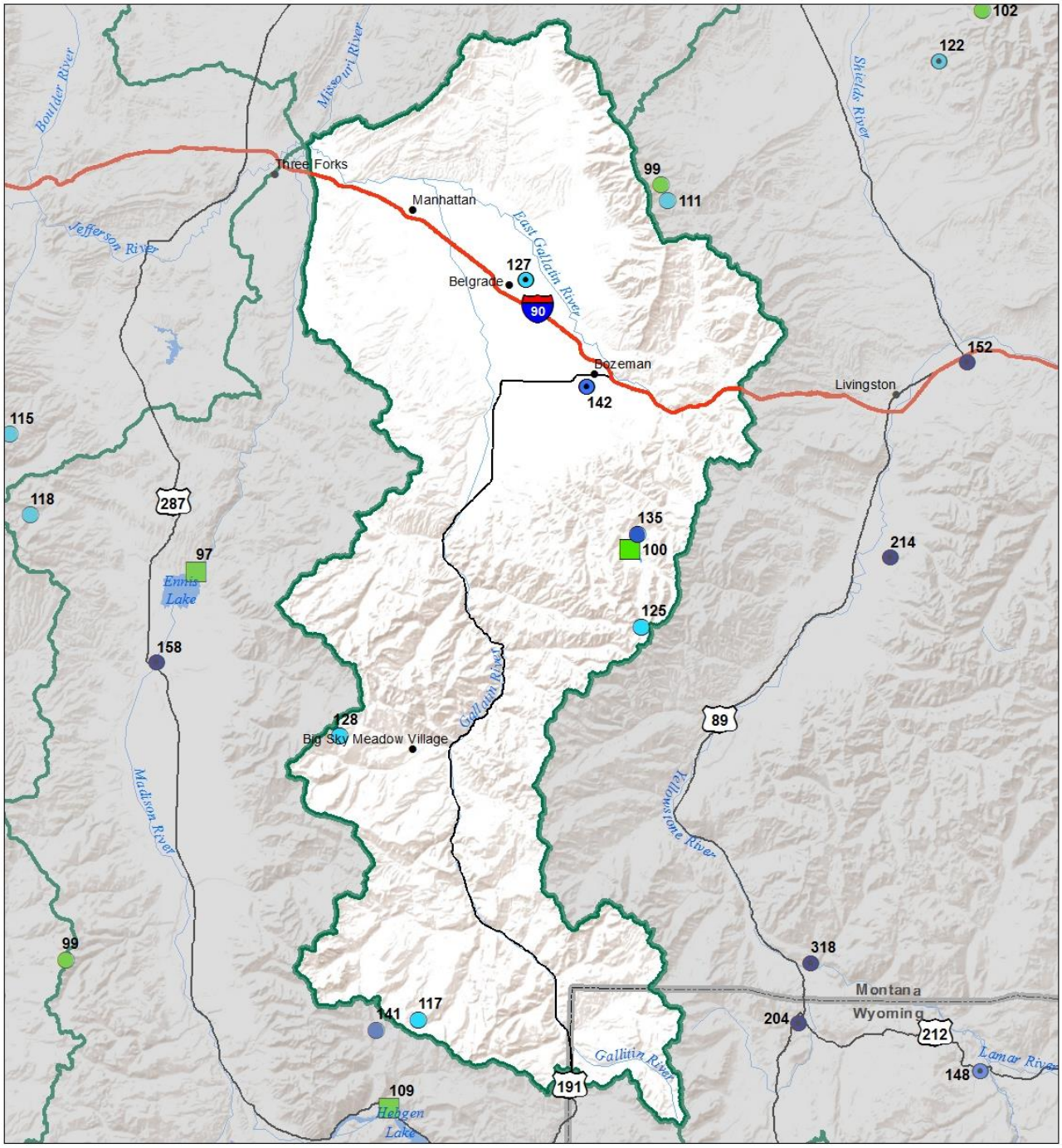
SNOTEL				Snowcourse			
> 150%	71 - 90%			> 150%	71 - 90%		
131 - 150%	51 - 70%			131 - 150%	51 - 70%		
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Gallatin River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

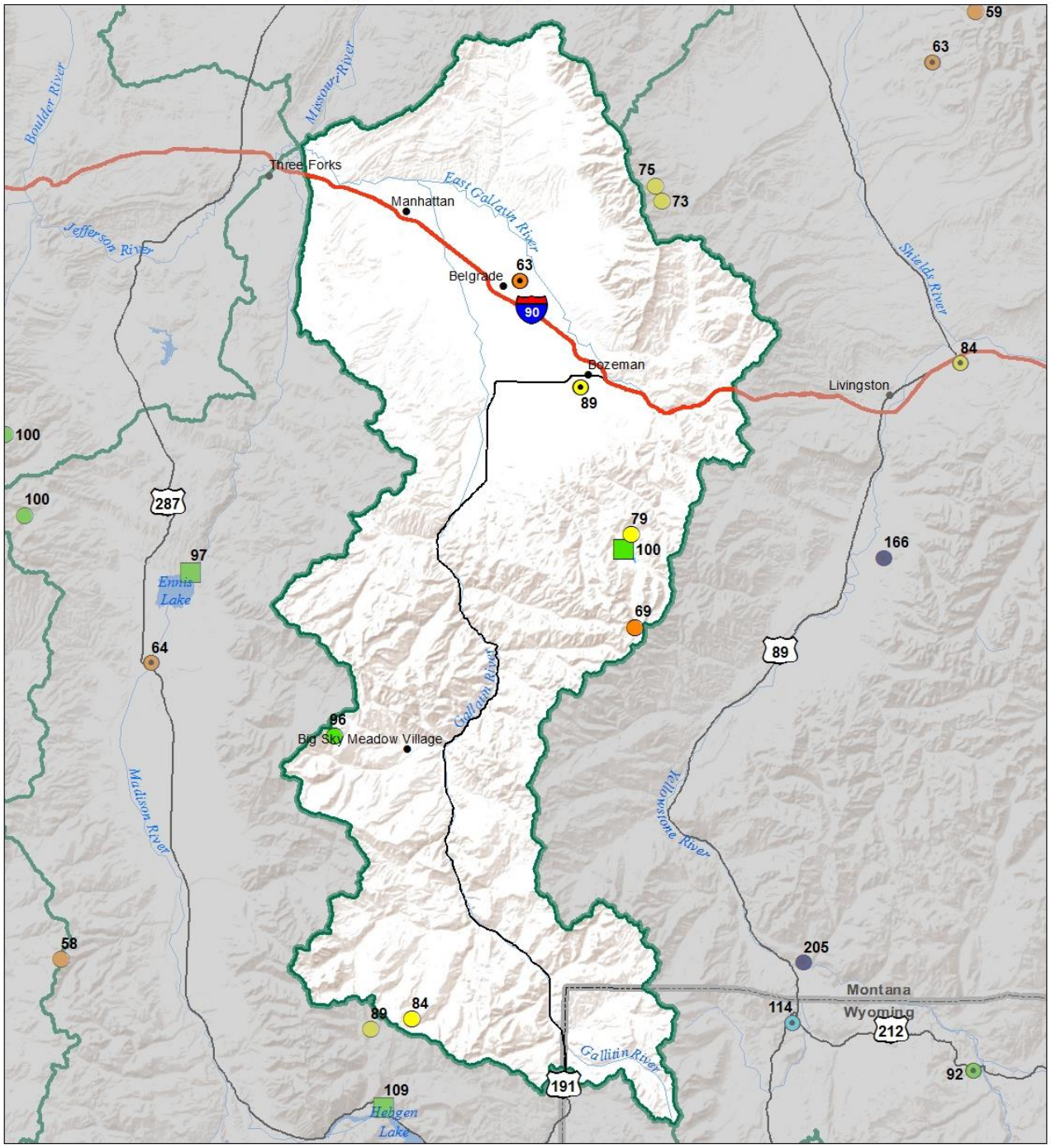
- > 150%
- 131 - 150%
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Gallatin River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017 (January 1, 2017 - February 1, 2017)



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
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111 - 130%	1 - 50%	111 - 130%	1 - 50%
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Reservoirs
Percent of Normal

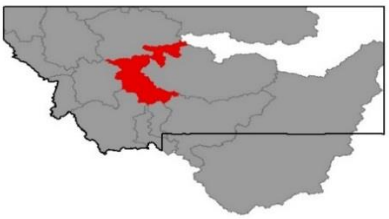
- > 150%
- 131 - 150%
- 111 - 130%
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Headwaters Mainstem (Missouri) River Basin



Starting 2017 with below normal snowpack conditions, and there wasn't much improvement in Headwaters Mainstem during January. Overall mountain precipitation in January was below average in the basin with the exception of Frohner Meadows SNOTEL, which received above average precipitation. The basin did benefit from the region wide storm that arrived during the second week of January. This storm favored the northern regions of the basin. Nevada Ridge SNOTEL received 10 inches of snow, while SNOTEL sites to the south only received 3-6 inches of snow. Overall, the Headwaters Mainstem snowpack is well below normal, despite having received near average precipitation since October 1st.

Headwaters Missouri Mainstem River Basin Data Summary

Snowpack	**Percent of 1981-2010 Normal (Median)**	**Last Year Percentage of Normal (Median)**
HEADWATERS MAINSTEM	85%	111%
SMITH-JUDITH-MUSSELSHELL	62%	105%
SUN-TETON-MARIAS	82%	62%
MAINSTEM ab FT PECK RES	75%	93%
MILK RIVER BASIN	61%	52%
Basin-Wide	**75%**	**93%**

Precipitation	**Monthly Percentage of Average**	**WYTD Percentage of 1981-2010 Average***	**WYTD Last Year Percentage of Average**
Mountain Precipitation	81%	102%	98%
Valley Precipitation	172%	187%	104%
Basin-Wide Precipitation	**84%**	**106%**	**99%**

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

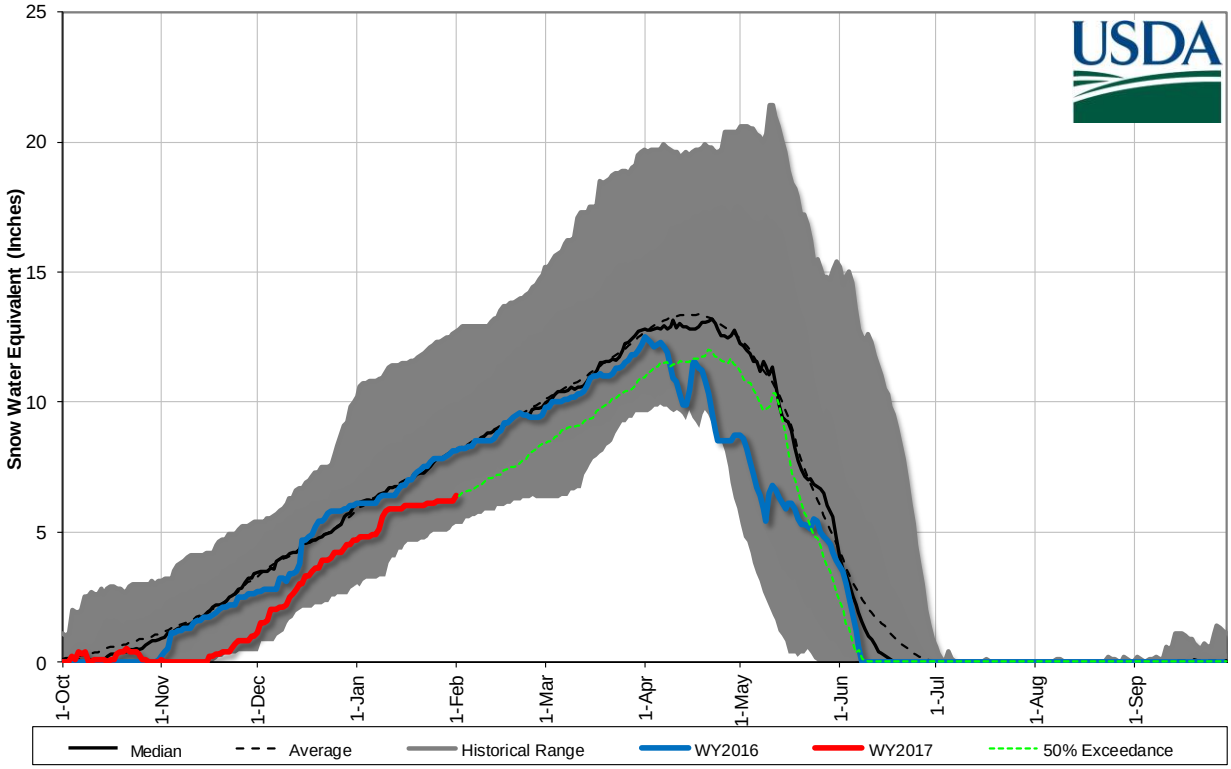
Reservoir Storage	**Percentage of Average**	**Percentage of Capacity (Total)**	**Last Year Percentage of Average**
Basin-Wide Storage	**113%**	**78%**	**113%**

**See Reservoir Storage Table for storage in individual reservoirs*

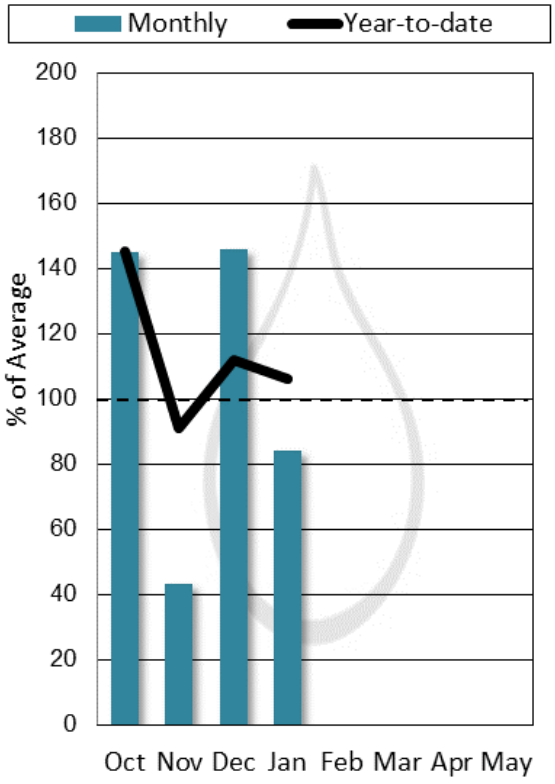
Canyon Ferry Lake	1417.5	1472.5	1531.0	2043.0	**93%**	**69%**
Helena Valley Reservoir	6.5	6.1	4.7	9.2	**137%**	**70%**
Lake Helena	9.8	9.9	10.9	12.7	**89%**	**77%**
Hauser Lake & Lake Helena	69.6	70.3	73.5	74.6	**95%**	**93%**
Holter Lake	80.9	80.9	80.7	81.9	**100%**	**99%**
Fort Peck Lake	14970.4	14957.8	12953.0	18910.0	**116%**	**79%**

Missouri River Basin below Toston above Smith River Inflow Snowpack with Non-Exceedence Projections

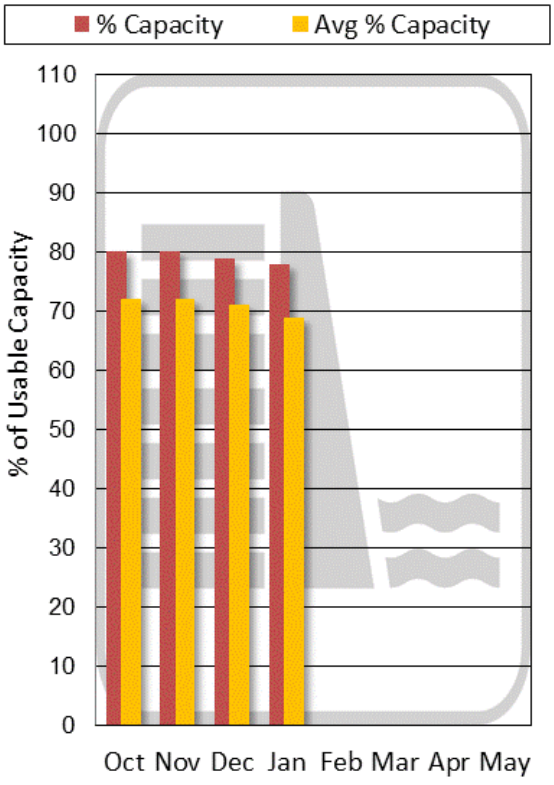
Based on provisional SNOTEL daily data as of 2/1/2017



Mountain and Valley Precipitation

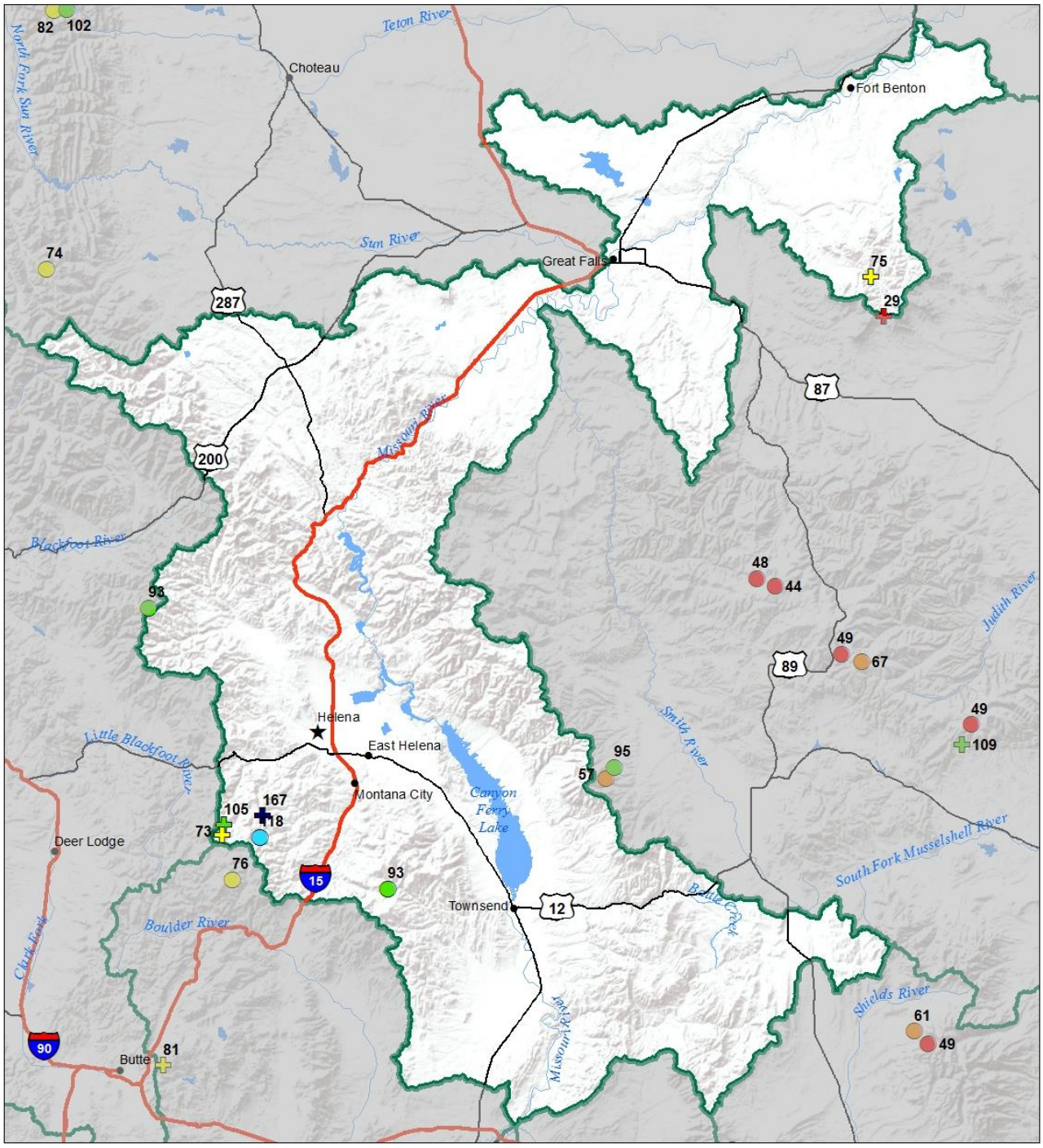


End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Headwaters Mainstem (Missouri) River Basin
Snow Water Equivalent
Percentage of Normal
February 1, 2017



Snow Water Equivalent
Percent of Normal

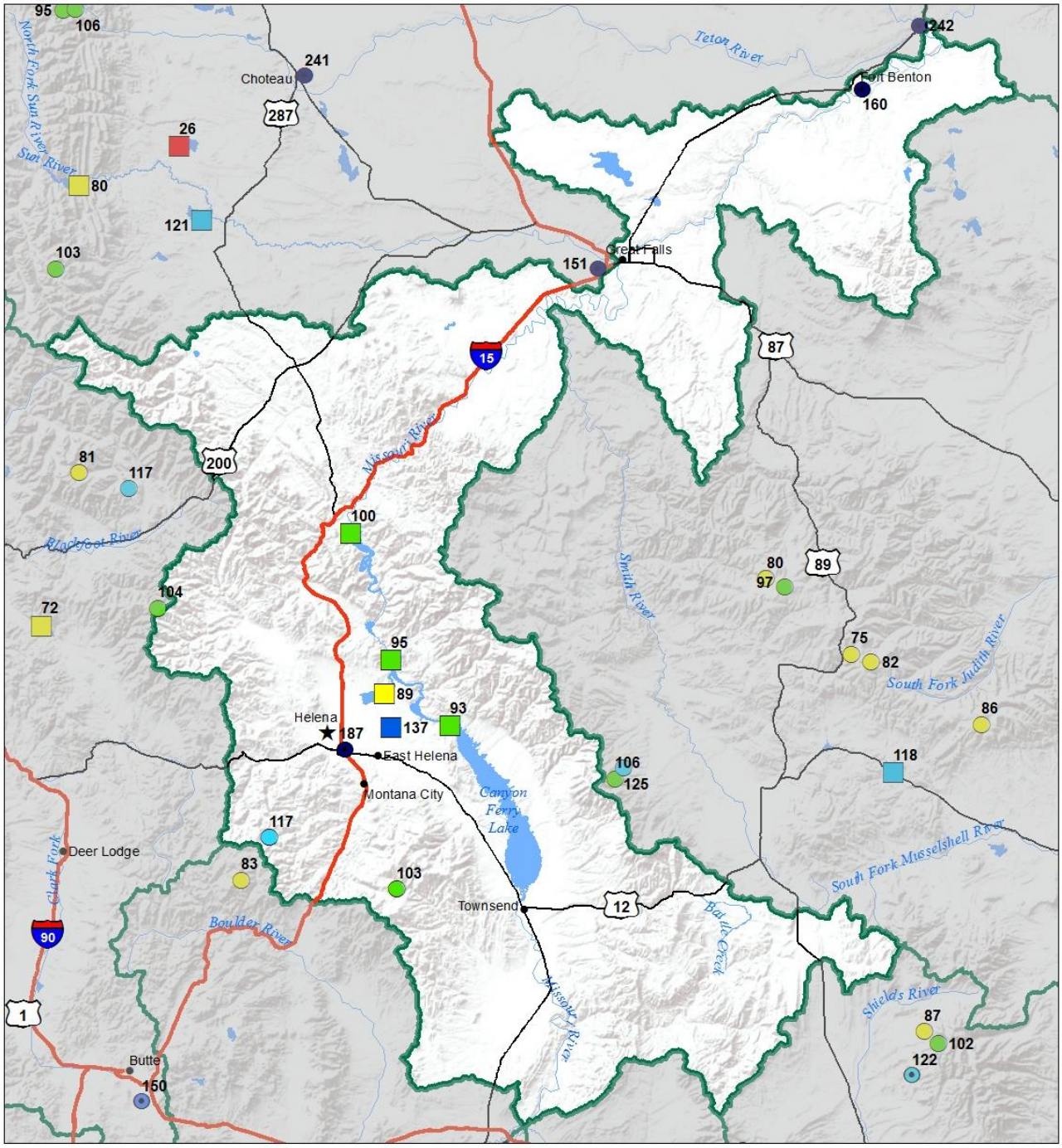
SNOTEL				Snowcourse			
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Headwaters Mainstem (Missouri) River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

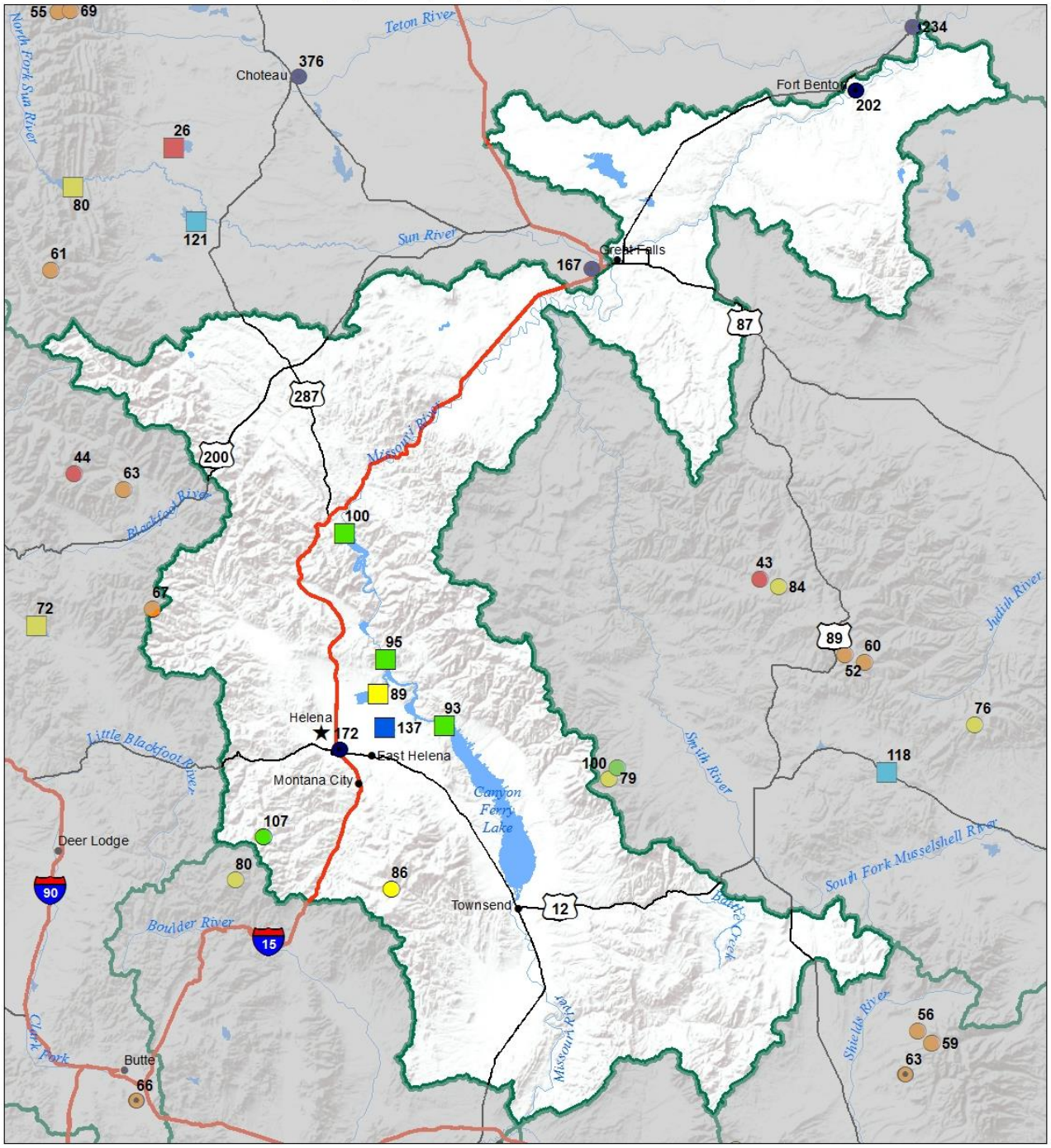
- > 150%
- 131 - 150%
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Headwaters Mainstem (Missouri) River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017 (January 1, 2017 - February 1, 2017)



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
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111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

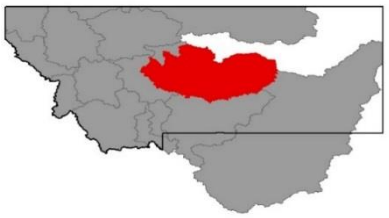
- > 150%
- 131 - 150%
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- 71 - 90%
- 51 - 70%
- 1 - 50%



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Smith-Judith-Musselshell River Basin



Since November 1st the Smith-Judith-Musselshell River basin has been struggling to receive much needed snow. Even though the basin received near normal snowfall in December, the snowpack is still well below normal. As of February 1st Deadman SNOTEL has the lowest snowpack in 50 years, Daisy Peak SNOTEL has the lowest snowpack in 22 years, and Boulder Mountain has the 2nd lowest snowpack in 39 years of record. The largest storm the basin has received so far in 2017 was during the second week of the January. This storm delivered about 7 to 10 inches in the mountains. Despite well below normal snowpack conditions, water year-to-date precipitation in the Smith-Judith-Musselshell River basin is above average.

Smith Judith Musselshell River Basin Data Summary

Snowpack	**Percent of 1981-2010 Normal (Median)**	**Last Year Percentage of Normal (Median)**
SMITH	60%	105%
HIGHWOOD	48%	133%
JUDITH	59%	103%
MUSSELSHELL	68%	99%
Basin-Wide	**62%**	**105%**

Precipitation	**Monthly Percentage of Average**	**WYTD Percentage of 1981-2010 Average***	**WYTD Last Year Percentage of Average**
Mountain Precipitation	67%	97%	103%
Valley Precipitation	66%	160%	136%
Basin-Wide Precipitation	**67%**	**105%**	**107%**

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

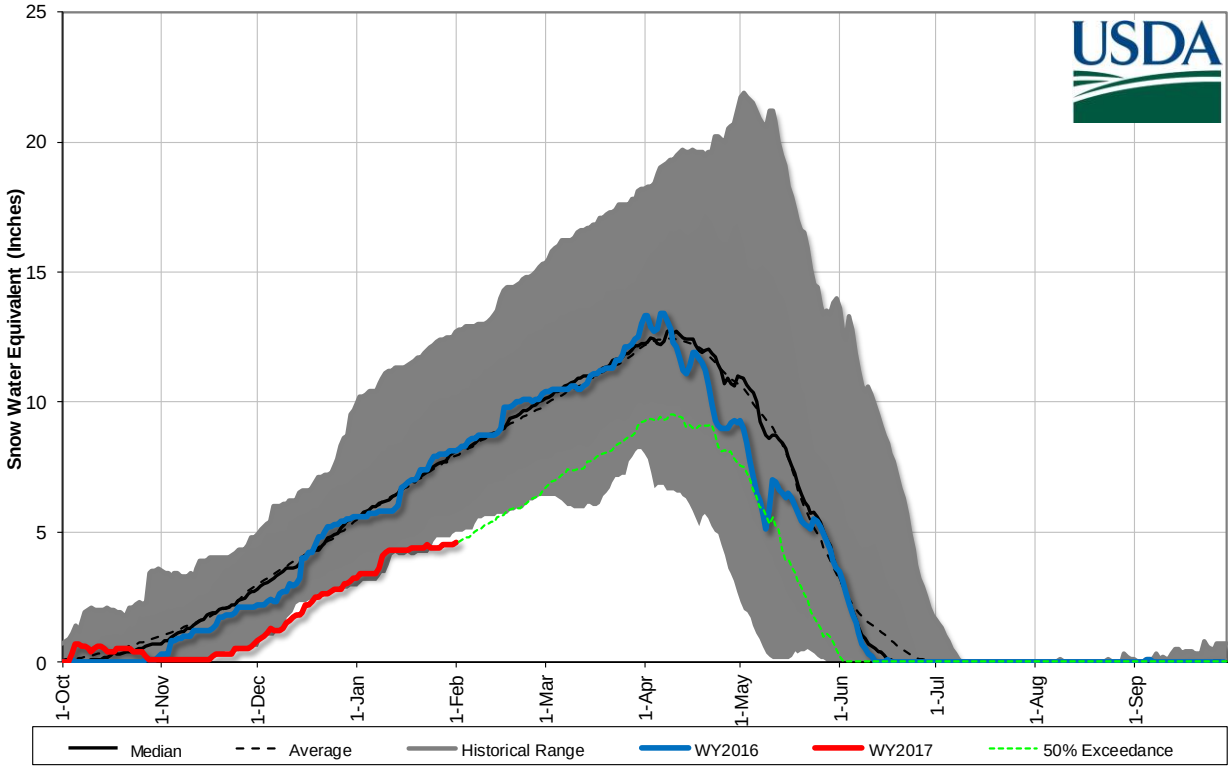
Reservoir Storage	**Percentage of Average**	**Percentage of Capacity (Total)**	**Last Year Percentage of Average**
Basin-Wide Storage	**118%**	**49%**	**190%**

**See Reservoir Storage Table for storage in individual reservoirs*

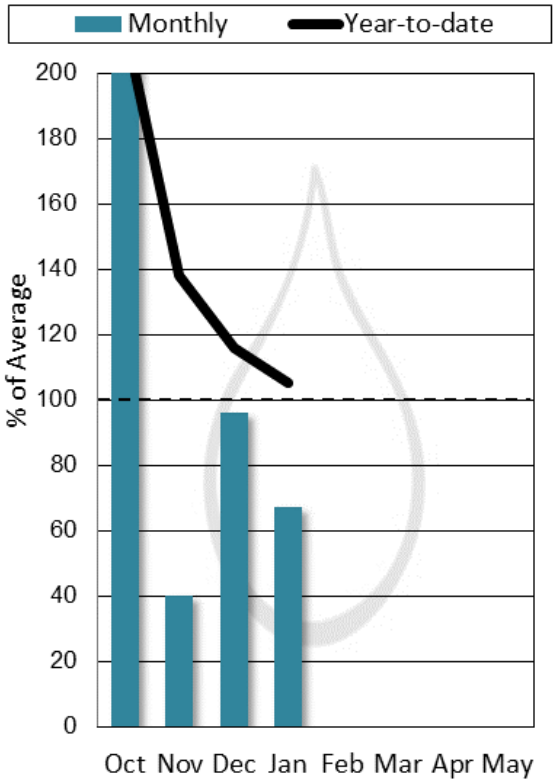
Smith River Res		6.0	5.5	10.6		
Ackley Lake		3.9	2.6	7.0		
Bair Res	3.4	5.5	2.9	7.0	**118%**	**49%**
Martinsdale Res		14.5	7.7	23.1		
Deadman's Basin Res		54.4	40.1	72.2		

Smith-Judith-Musselshell River Basin Snowpack with Non-Exceedence Projections

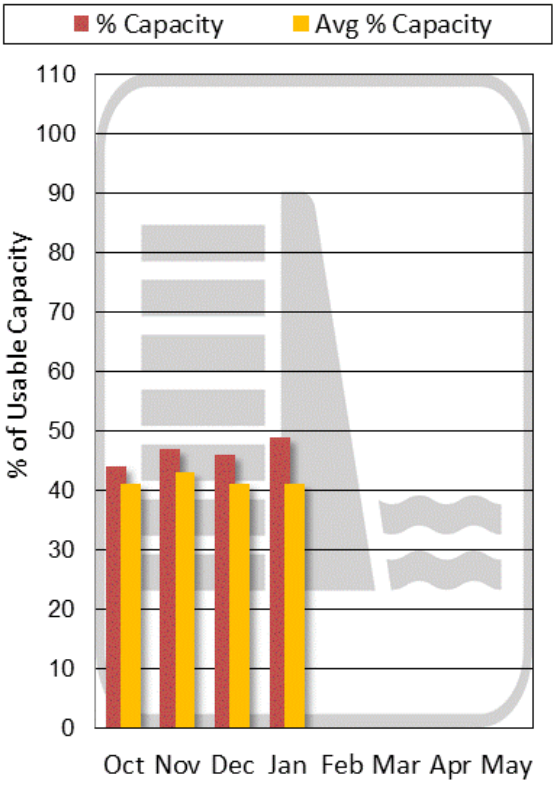
Based on provisional SNOTEL daily data as of 2/1/2017



Mountain and Valley Precipitation

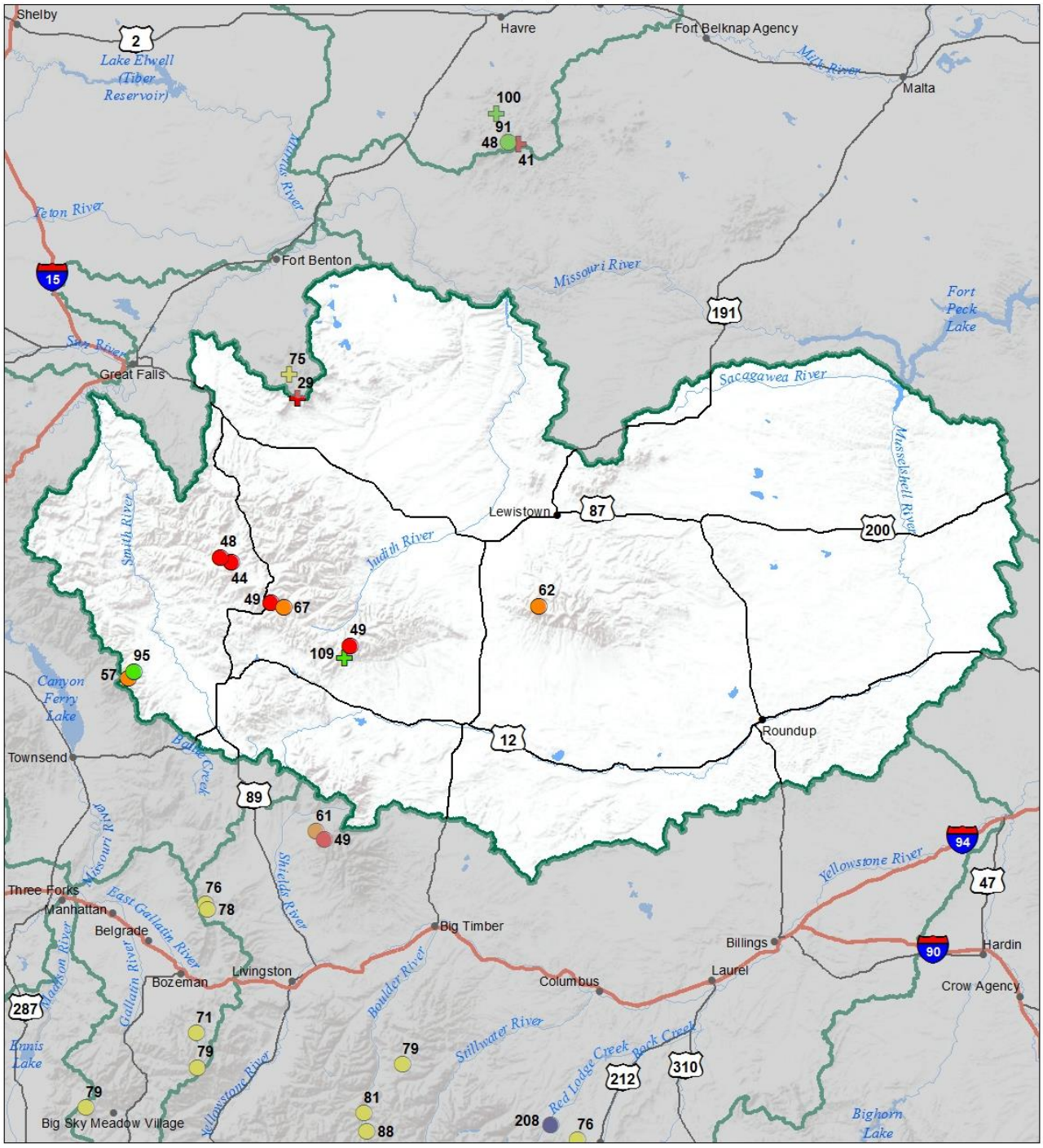


End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Smith-Judith-Musselshell River Basin
Snow Water Equivalent
Percentage of Normal
February 1, 2017



Snow Water Equivalent
Percent of Normal

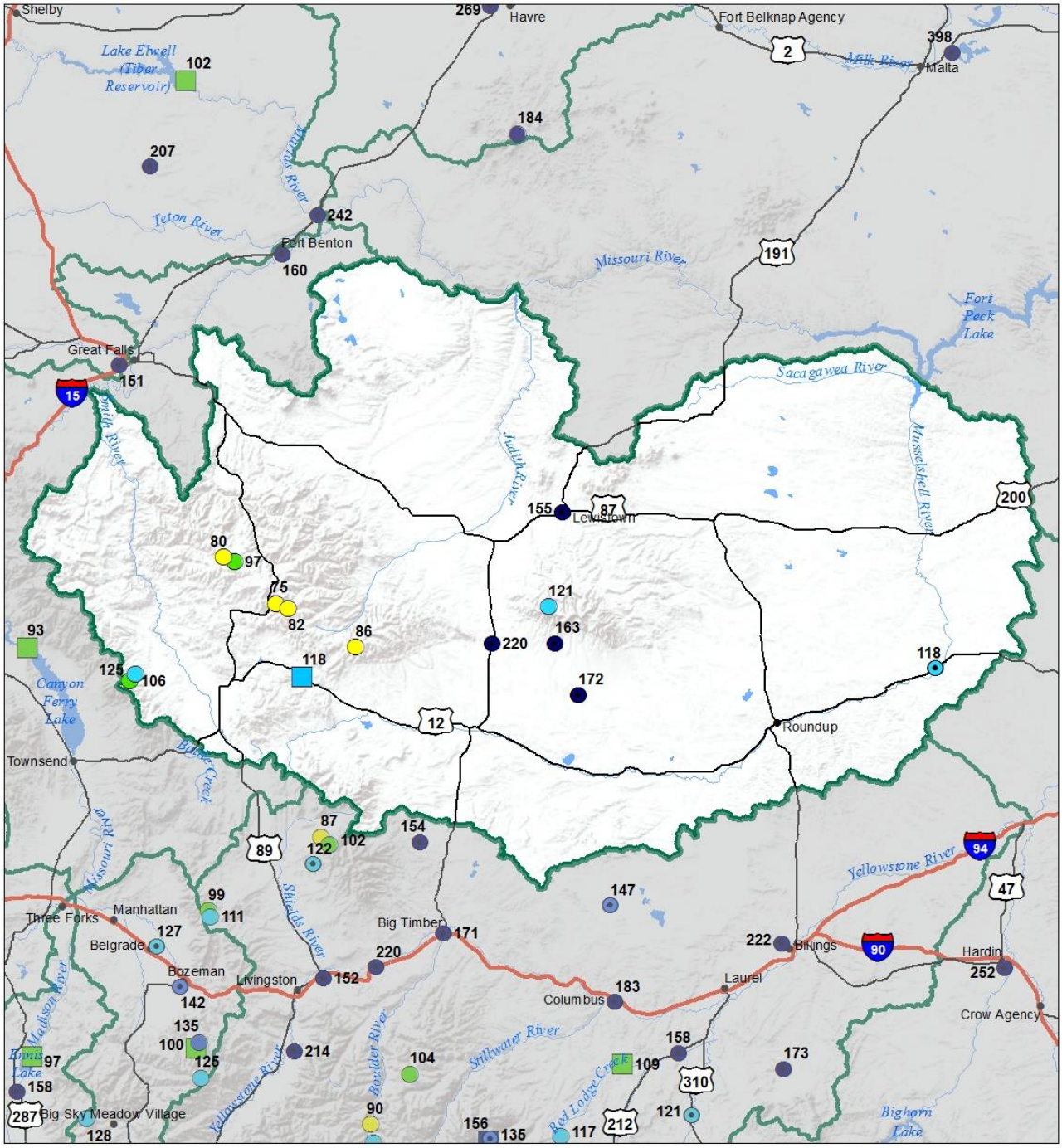
SNOTEL		Snowcourse	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%	0%	91 - 110%	0%



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Smith-Judith-Musselshell River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

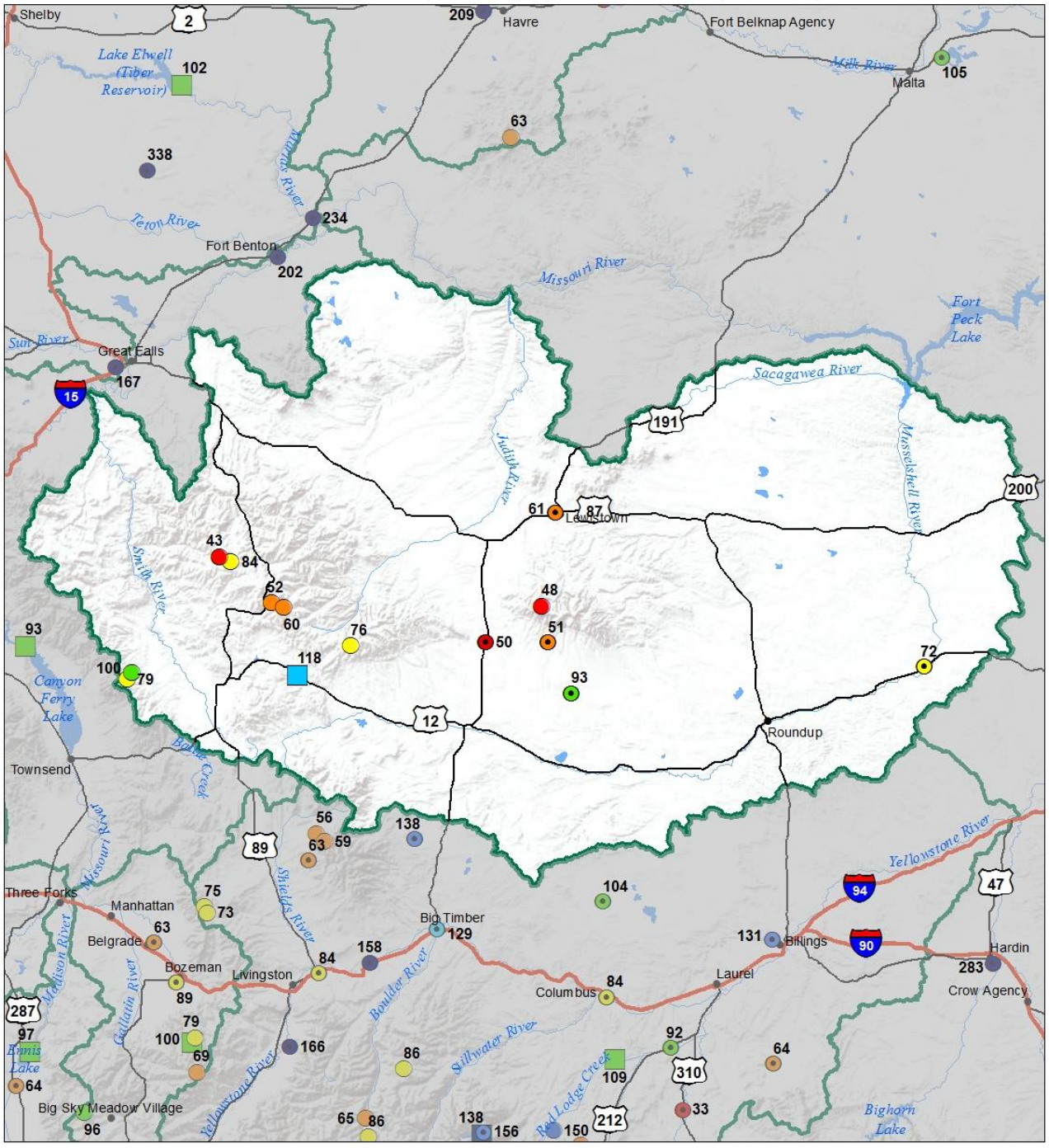
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Smith-Judith-Musselshell River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017 (January 1, 2017 - February 1, 2017)

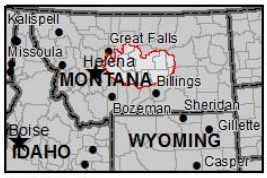


Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

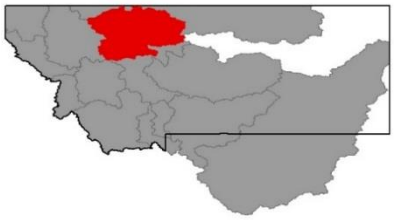
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Sun-Teton-Marias River Basin



The Sun-Teton-Marias River basin started 2017 with a near normal snowpack. Unfortunately, the basin only received about half of its average January precipitation. Much of that precipitation came from a storm during the second week of the month. Badger Pass SNOTEL received 18 inches of snow from this storm. The basin remained relatively dry for the remainder of the month. The basin also experienced above freezing mountain temperatures during the third week of the month. As of February 1st upper elevation SNOTEL sites in the Sun-Teton-Marias River basin have a well below normal snowpack, while lower elevation sites are near normal.

Sun-Teton-Marias River Basin Data Summary

Snowpack	**Percent of 1981-2010 Normal (Median)**	**Last Year Percentage of Normal (Median)**
SUN	79%	68%
TETON	90%	61%
MARIAS	79%	60%
Basin-Wide	**82%**	**62%**

Precipitation	**Monthly Percentage of Average**	**WYTD Percentage of 1981-2010 Average***	**WYTD Last Year Percentage of Average**
Mountain Precipitation	59%	100%	74%
Valley Precipitation	67%	111%	98%
Basin-Wide Precipitation	**60%**	**103%**	**79%**

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

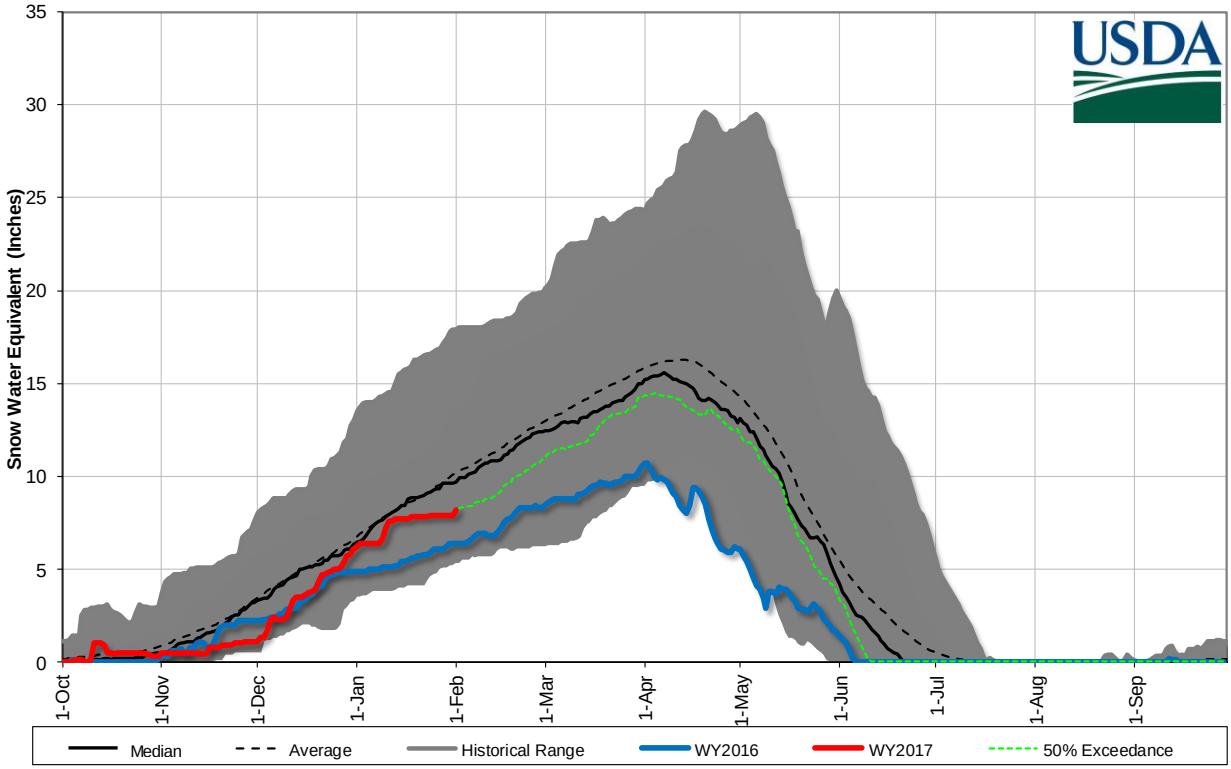
Reservoir Storage	**Percentage of Average**	**Percentage of Capacity (Total)**	**Last Year Percentage of Average**
Basin-Wide Storage	**97%**	**50%**	**99%**

**See Reservoir Storage Table for storage in individual reservoirs*

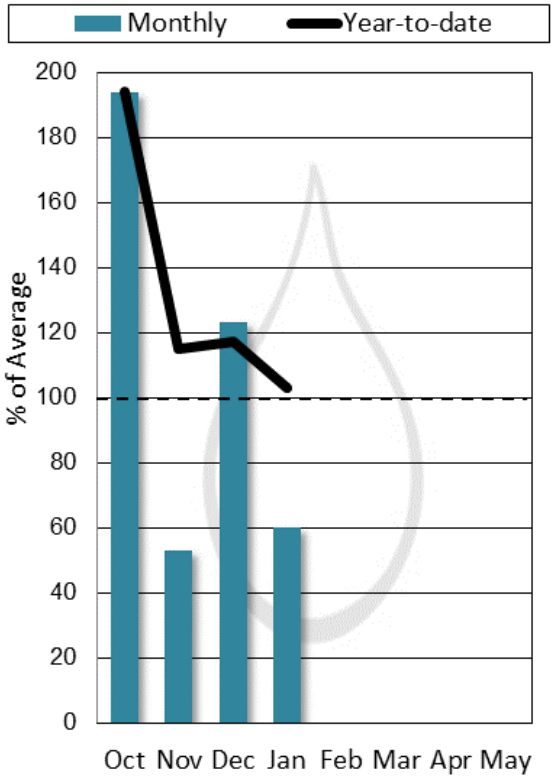
Gibson Res	31.8	20.6	39.9	99.1	**80%**	**32%**
Pishkun Res	4.5	5.6	17.5	32.0	**26%**	**14%**
Willow Creek Res - Augusta	27.7	27.9	22.9	32.2	**121%**	**86%**
Lower Two Medicine Lake	10.3	8.5	8.2	11.9	**125%**	**86%**
Four Horns Lake	12.5	8.8	10.2	19.2	**123%**	**65%**
Swift Res	11.9	9.7	15.3	30.0	**78%**	**40%**
Lake Frances	37.9	54.6	57.5	112.0	**66%**	**34%**
Lake Elwell (Tiber)	711.6	726.4	700.8	1347.0	**102%**	**53%**
Nilan Reservoir		4.6	6.3	11.0		

Sun-Teton-Marias River Basin Snowpack with Non-Exceedence Projections

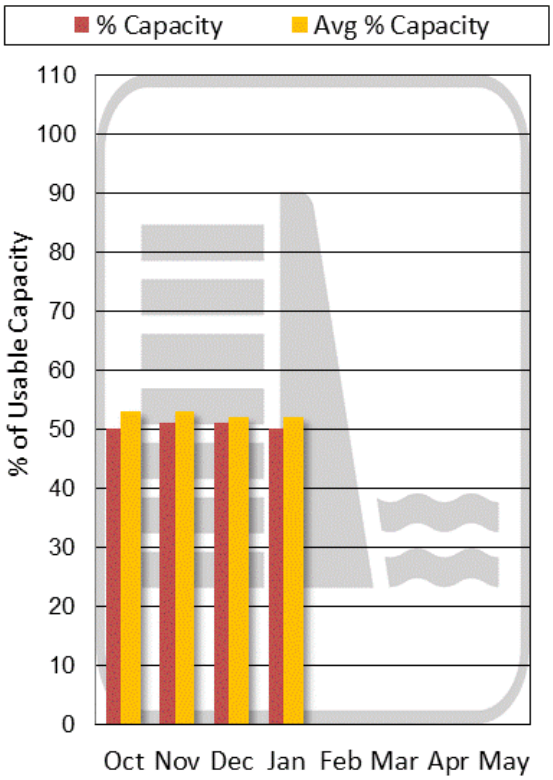
Based on provisional SNOTEL daily data as of 2/1/2017



Mountain and Valley Precipitation

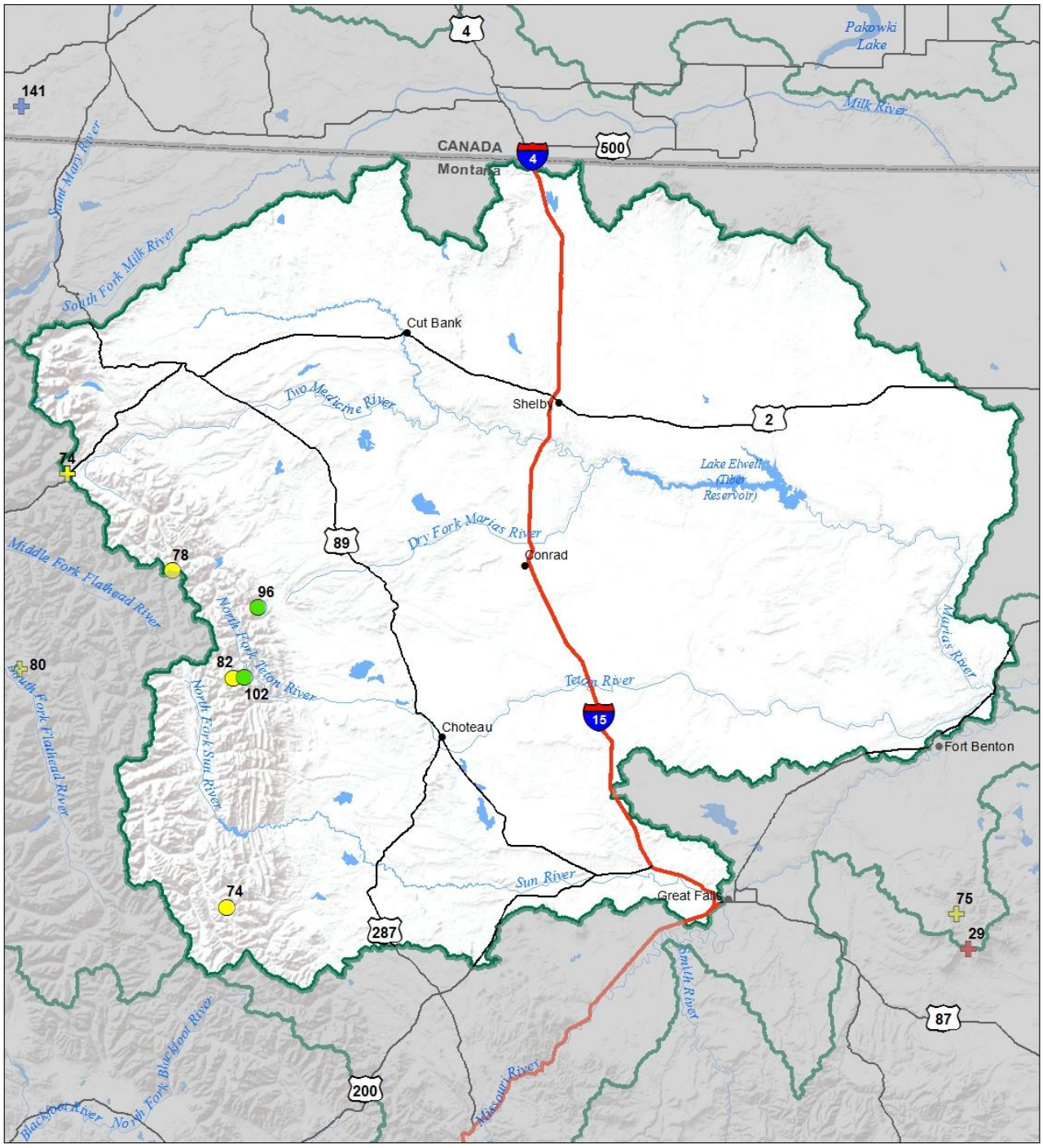


End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Sun-Teton-Marias River Basin
Snow Water Equivalent
Percentage of Normal
February 1, 2017



Snow Water Equivalent
Percent of Normal

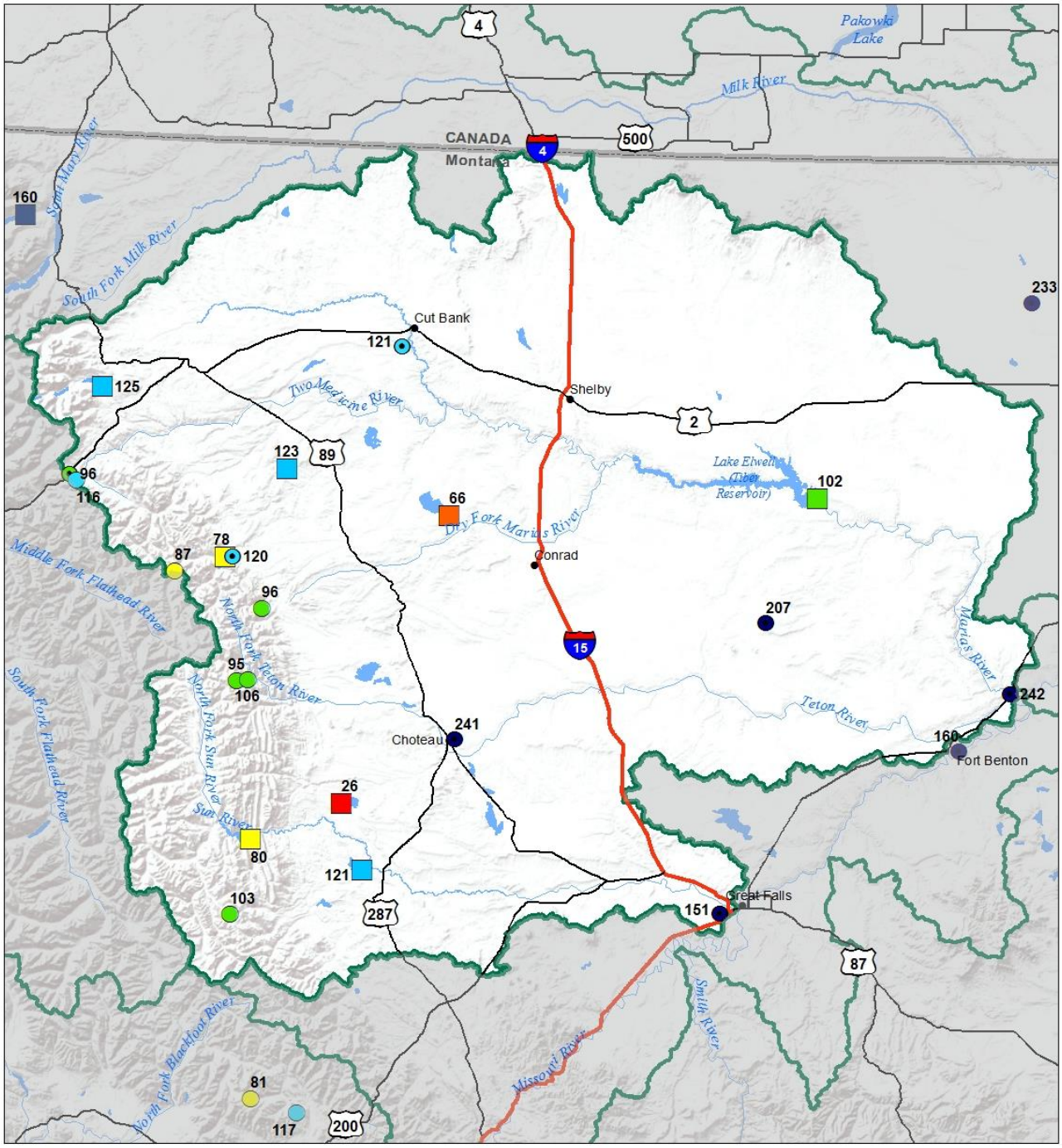
SNOTEL				Snowcourse			
> 150%	71 - 90%			> 150%	71 - 90%		
131 - 150%	51 - 70%			131 - 150%	51 - 70%		
111 - 130%	1 - 50%			111 - 130%	1 - 50%		
91 - 110%	0%			91 - 110%	0%		



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Sun-Teton-Marias River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

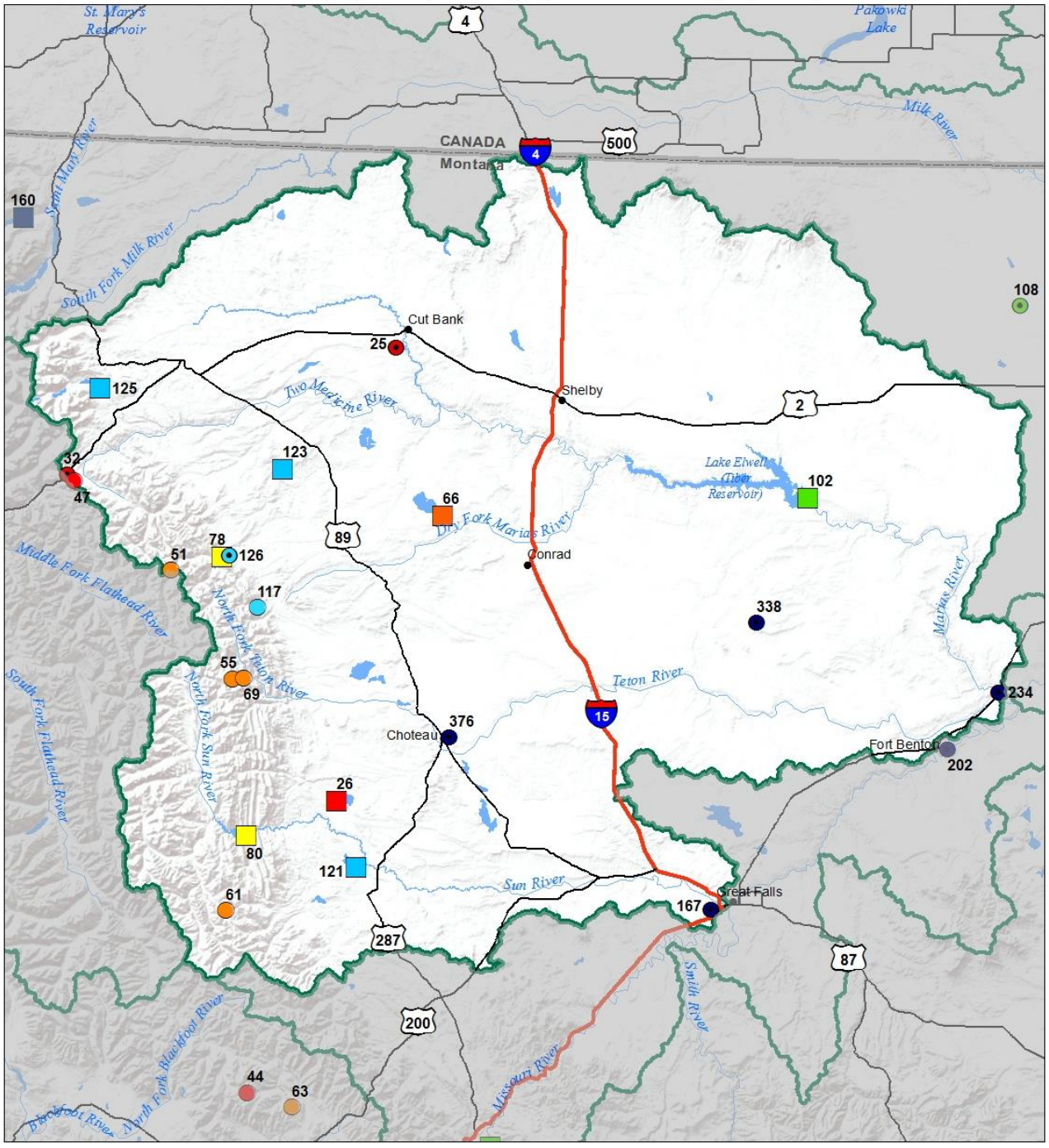
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Sun-Teton-Marias River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017 (January 1, 2017 - February 1, 2017)



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

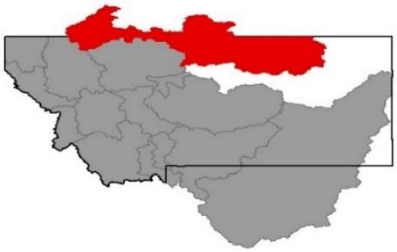
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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St. Mary-Milk River Basin



Starting 2017 with a near normal snowpack, January precipitation in the Saint-Mary-Milk River basin was well below average. January did however begin with a significant storm that delivered over a foot of snow to the basin. Many Glacier SNOTEL received 14 inches of snow from this storm. The storm was immediately followed by above average temperatures. On January 17th Many Glacier SNOTEL reached 43 degrees. Other than a small storm on the 23rd the basin remained dry for the remainder of the month. Water Year precipitation since October 1st has been above average, however as of February 1st the basin-wide snowpack is below normal.

St. Mary-Milk River Basin Data Summary

Snowpack	**Percent of 1981-2010 Normal (Median)**	**Last Year Percentage of Normal (Median)**
ST. MARY	81%	79%
BEARPAW MOUNTAINS	70%	71%
CYPRESS HILLS, CANADA	55%	39%
MILK RIVER BASIN	61%	52%
Basin-Wide	**73%**	**69%**

Precipitation	**Monthly Percentage of Average**	**WYTD Percentage of 1981-2010 Average***	**WYTD Last Year Percentage of Average**
Mountain Precipitation (St. Mary)	38%	107%	97%
Mountain Precipitation (Bearpaw Mtns)	69%	196%	102%
Valley Precipitation	95%	269%	156%
Basin-Wide Precipitation	**50%**	**149%**	**107%**

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

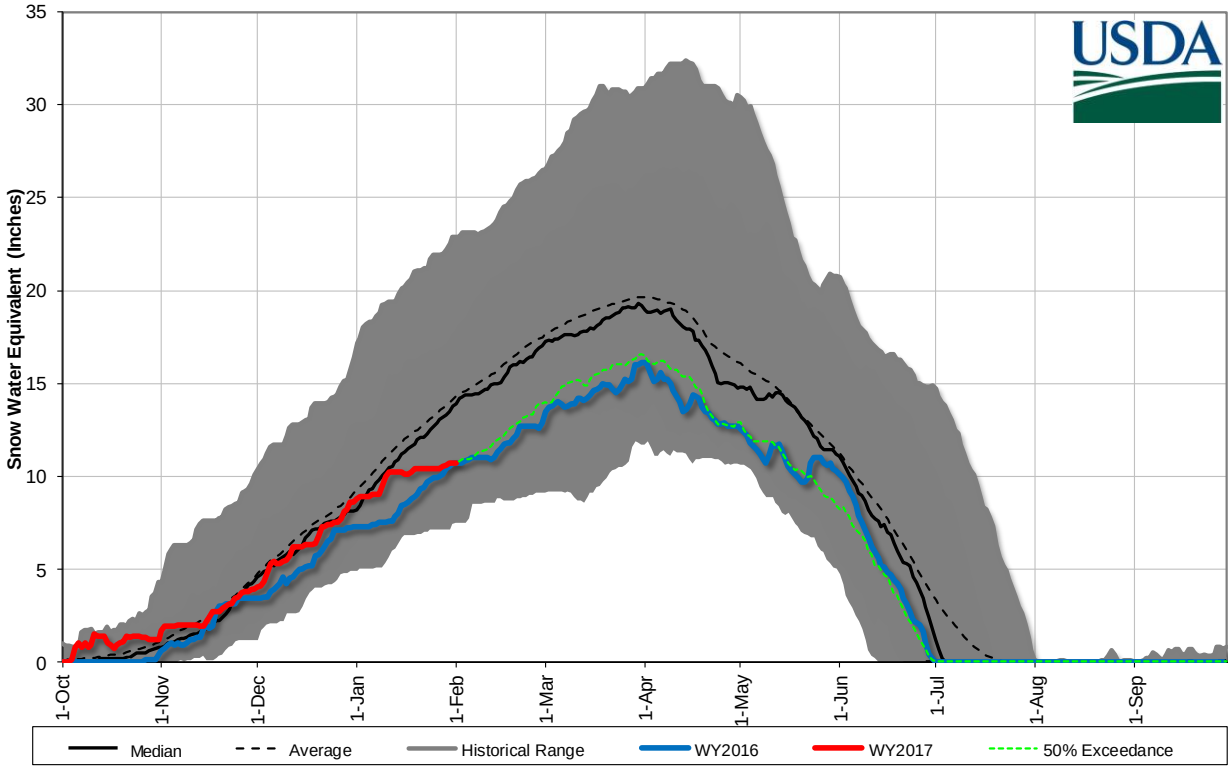
Reservoir Storage	**Percentage of Average**	**Percentage of Capacity (Total)**	**Last Year Percentage of Average**
Basin-Wide Storage	**140%**	**51%**	**125%**

**See Reservoir Storage Table for storage in individual reservoirs*

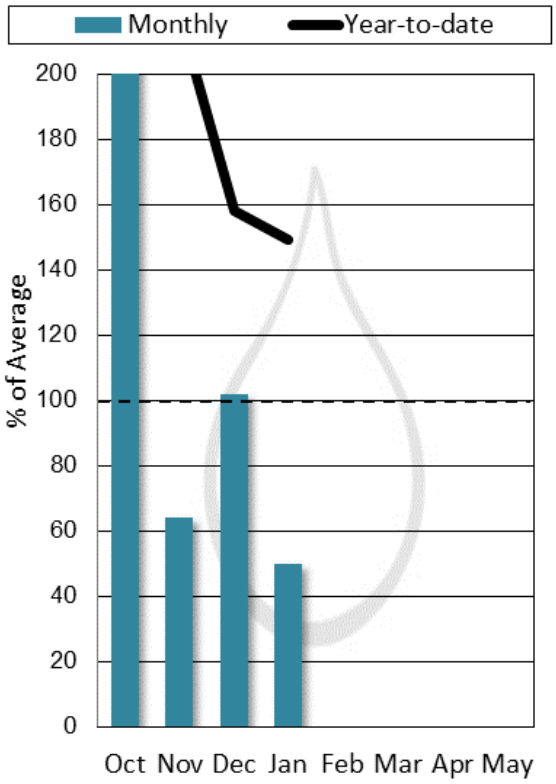
Lake Sherburne	45.5	32.9	28.5	64.3	**160%**	**71%**
Fresno Res	53.0	54.6	41.7	127.0	**127%**	**42%**
Nelson Res		41.4	31.5	66.8		

Saint Mary-Milk River Basin Snowpack with Non-Exceedence Projections

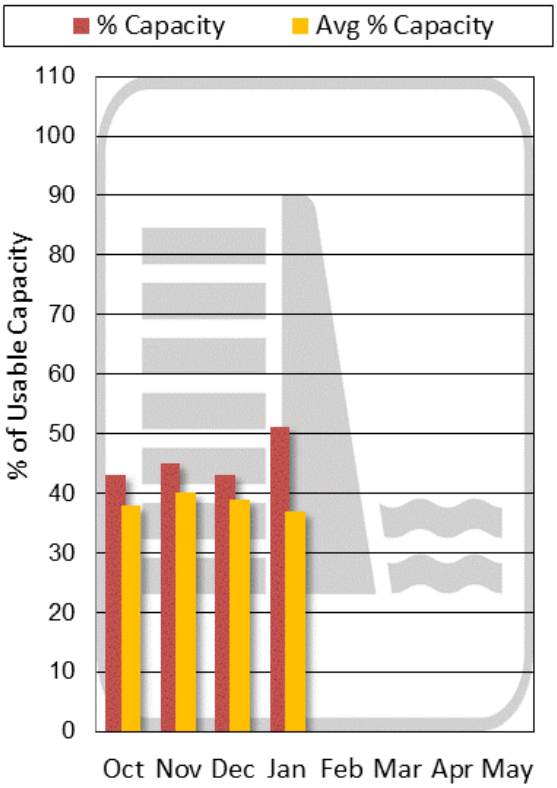
Based on provisional SNOTEL daily data as of 2/1/2017



Mountain and Valley Precipitation

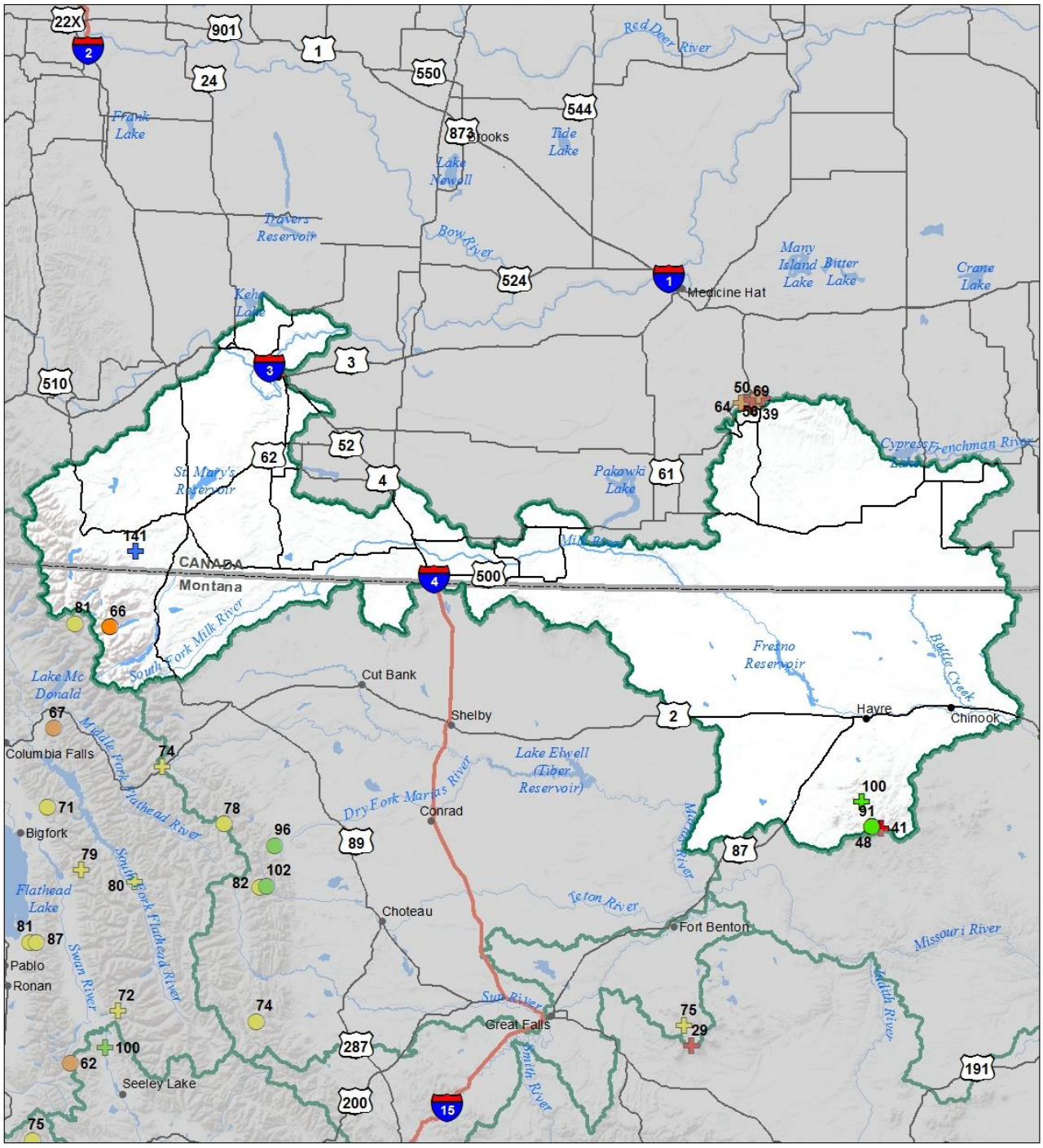


End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

St Mary's-Milk River Basin
Snow Water Equivalent
Percentage of Normal
February 1, 2017



Snow Water Equivalent
Percent of Normal

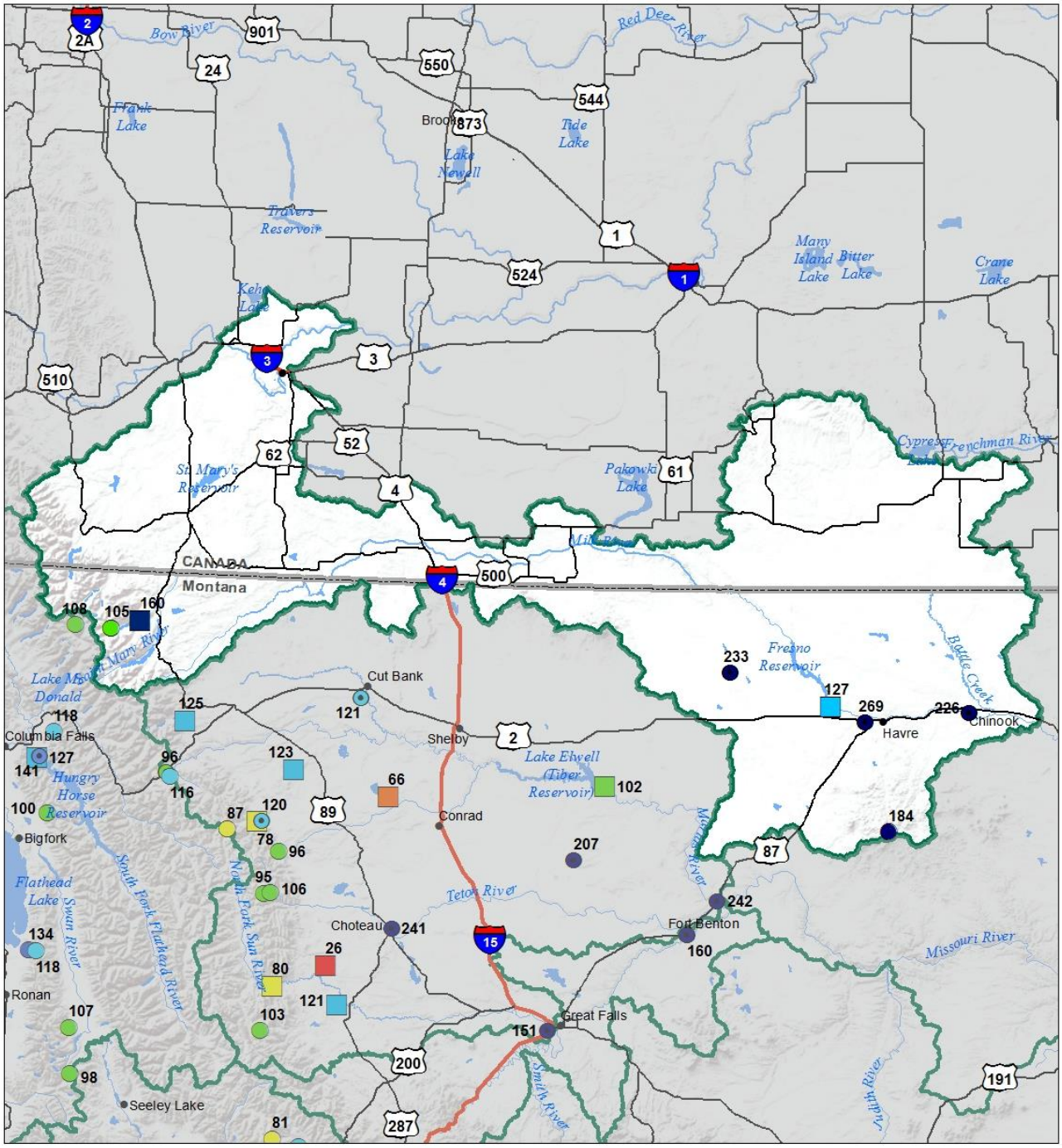
SNOTEL				Snowcourse			
> 150%	71 - 90%			> 150%	71 - 90%		
131 - 150%	51 - 70%			131 - 150%	51 - 70%		
111 - 130%	1 - 50%			111 - 130%	1 - 50%		
91 - 110%	0%			91 - 110%	0%		



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St Mary's-Milk River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

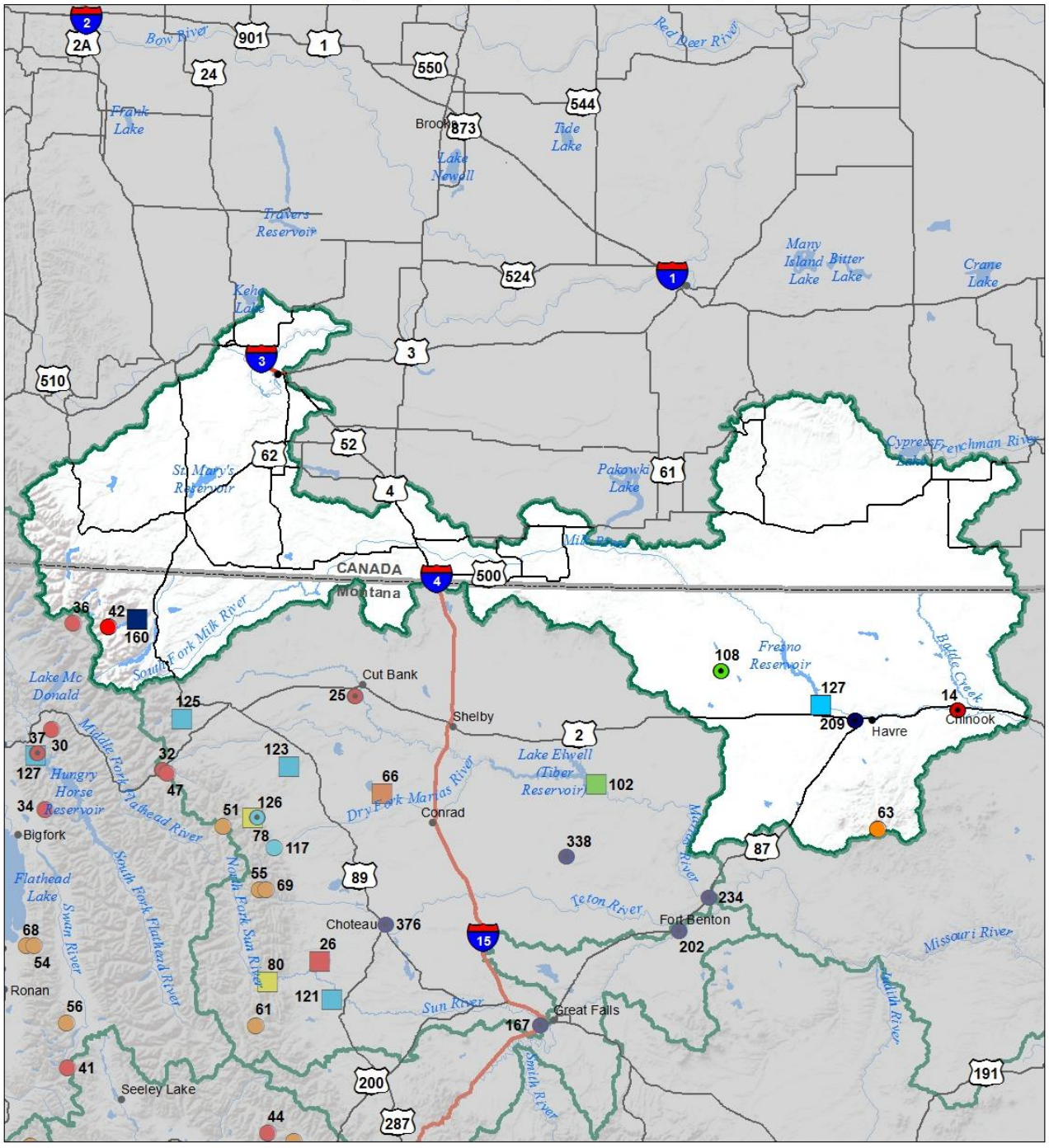
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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St Mary's-Milk River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017 (January 1, 2017 - February 1, 2017)



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Upper Yellowstone River Basin

As of February 1st the Upper Yellowstone River basin has an above normal snowpack. This is primarily due to the snowpack at the upper reaches of the basin. Snow measurement locations within Yellowstone National Park and around Cooke City have near to above normal conditions, while nearly everything downstream of the park is below average. Just over the basin divide, representing a portion of the Paradise Valley, Shower Falls SNOTEL currently has the lowest snowpack in 52 years of record. As usual Cooke City sites received the largest snow accumulations. From January 8th to the 12th Fisher Creek SNOTEL received 30 inches of snow with 4 inches of snow water equivalent. As of February 1st the water year-to-date precipitation in the Upper Yellowstone River basin is above average.

Upper Yellowstone River Basin Data Summary

Snowpack	**Percent of 1981-2010 Normal (Median)**	**Last Year Percentage of Normal (Median)**
YELLOWSTONE ab LIVINGSTON	108%	89%
SHIELDS	67%	101%
BOULDER-STILLWATER	83%	83%
RED LODGE-ROCK CREEK	106%	62%
CLARK'S FORK	114%	93%
Basin-Wide	**104%**	**90%**

Precipitation	**Monthly Percentage of Average**	**WYTD Percentage of 1981-2010 Average***	**WYTD Last Year Percentage of Average**
Mountain Precipitation	98%	127%	96%
Valley Precipitation	107%	164%	130%
Basin-Wide Precipitation	**99%**	**131%**	**100%**

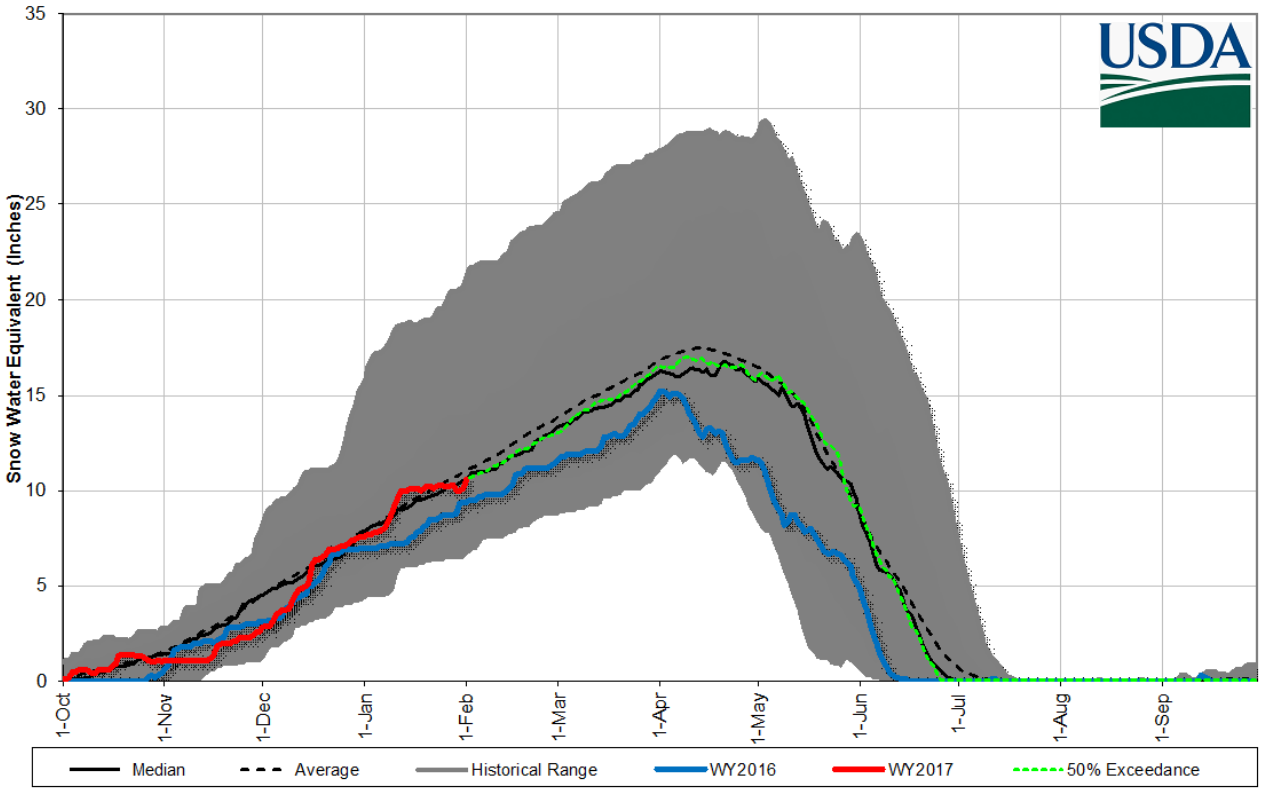
*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

Reservoir Storage	**Percentage of Average**	**Percentage of Capacity (Total)**	**Last Year Percentage of Average**
Basin-Wide Storage	**120%**	**56%**	**139%**

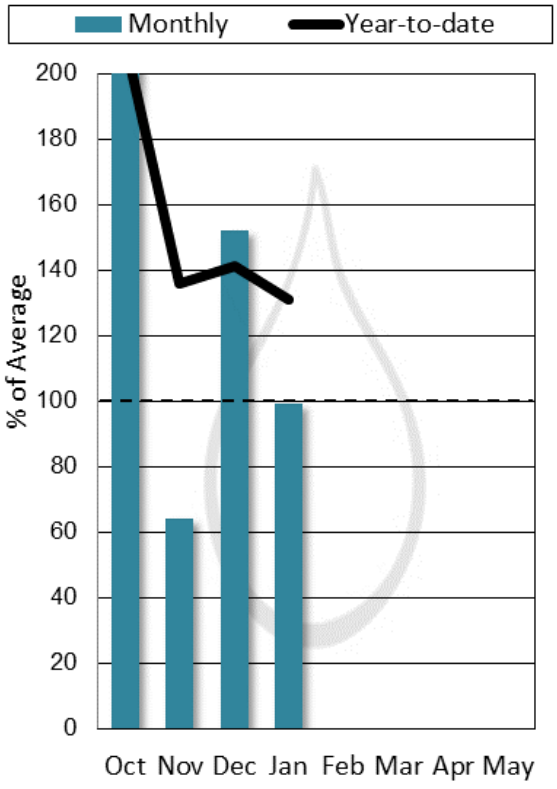
**See Reservoir Storage Table for storage in individual reservoirs*

Upper Yellowstone River Basin Snowpack with Non-Exceedence Projections

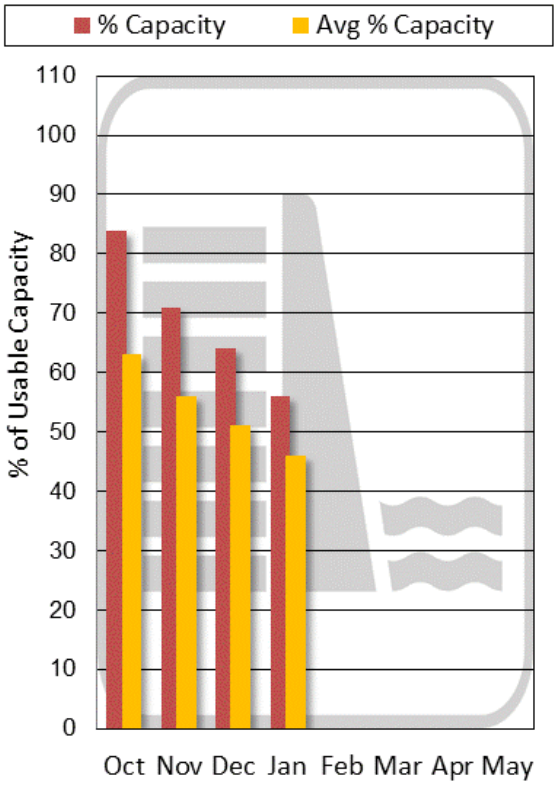
Based on provisional SNOTEL daily data as of 2/1/2017



Mountain and Valley Precipitation

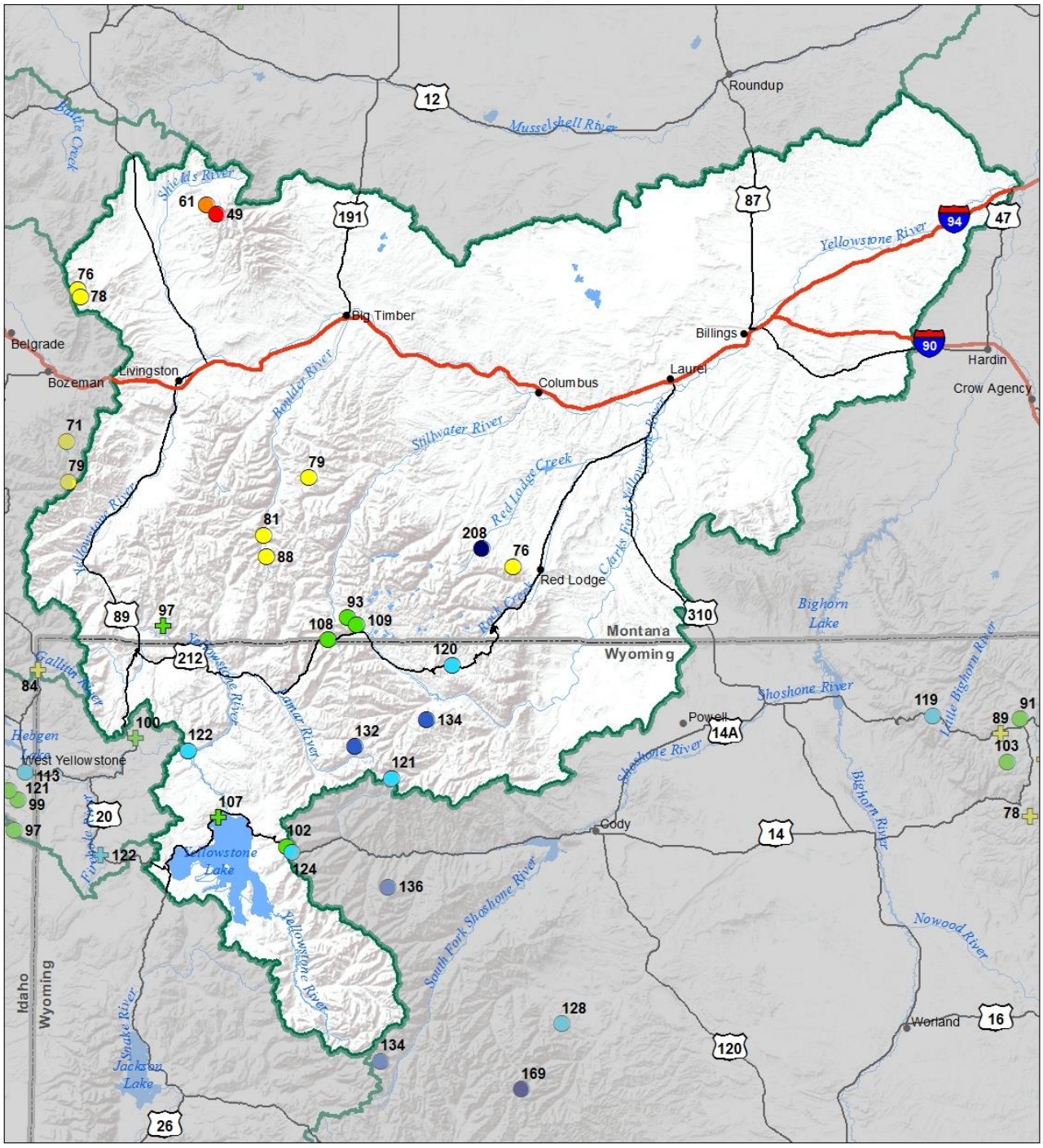


End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Upper Yellowstone River Basin
Snow Water Equivalent
Percentage of Normal
February 1, 2017



Snow Water Equivalent
Percent of Normal

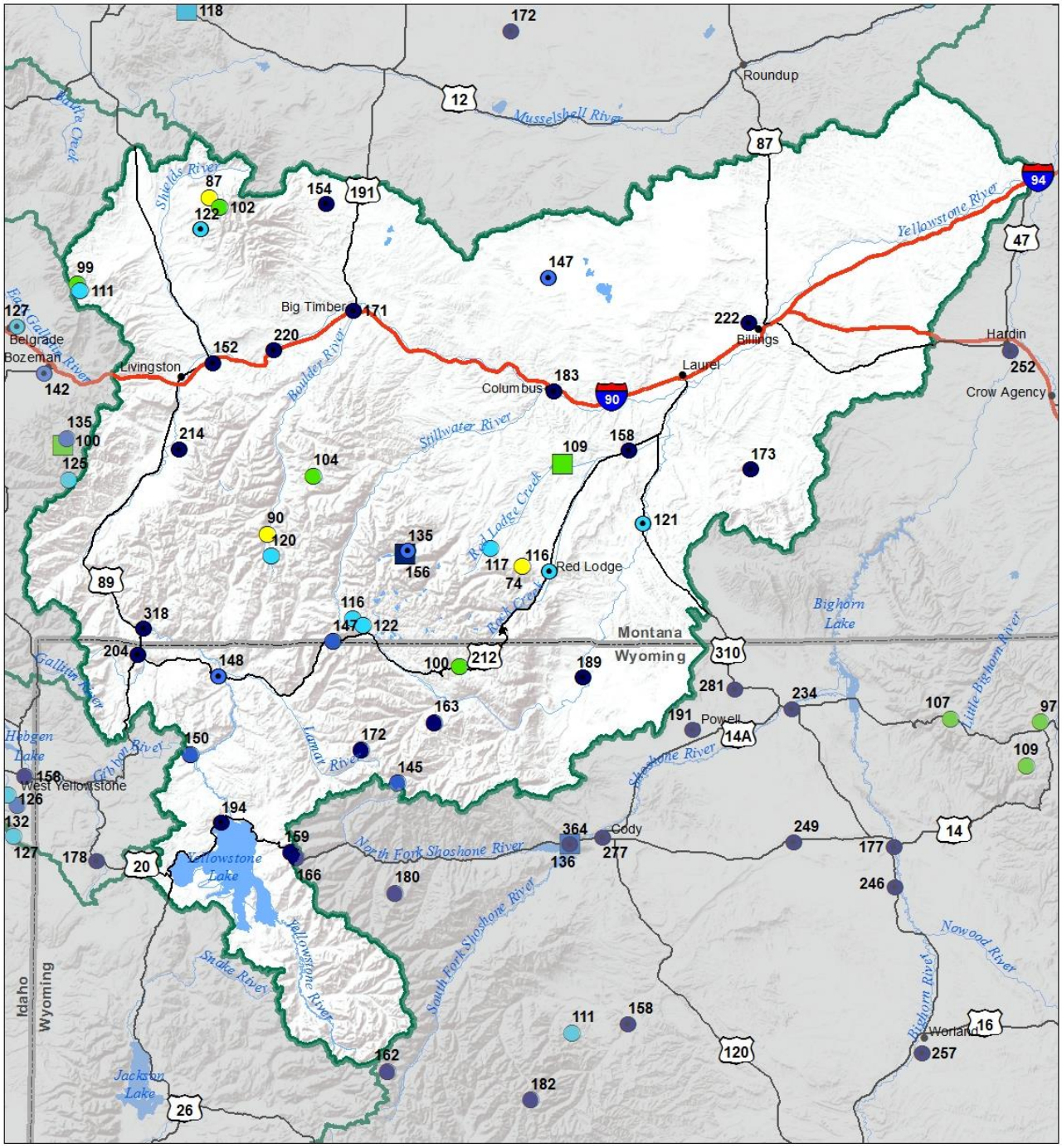
SNOTEL				Snowcourse			
> 150%	71 - 90%			> 150%	71 - 90%		
131 - 150%	51 - 70%			131 - 150%	51 - 70%		
111 - 130%	1 - 50%			111 - 130%	1 - 50%		
91 - 110%	0%			91 - 110%	0%		



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Upper Yellowstone River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

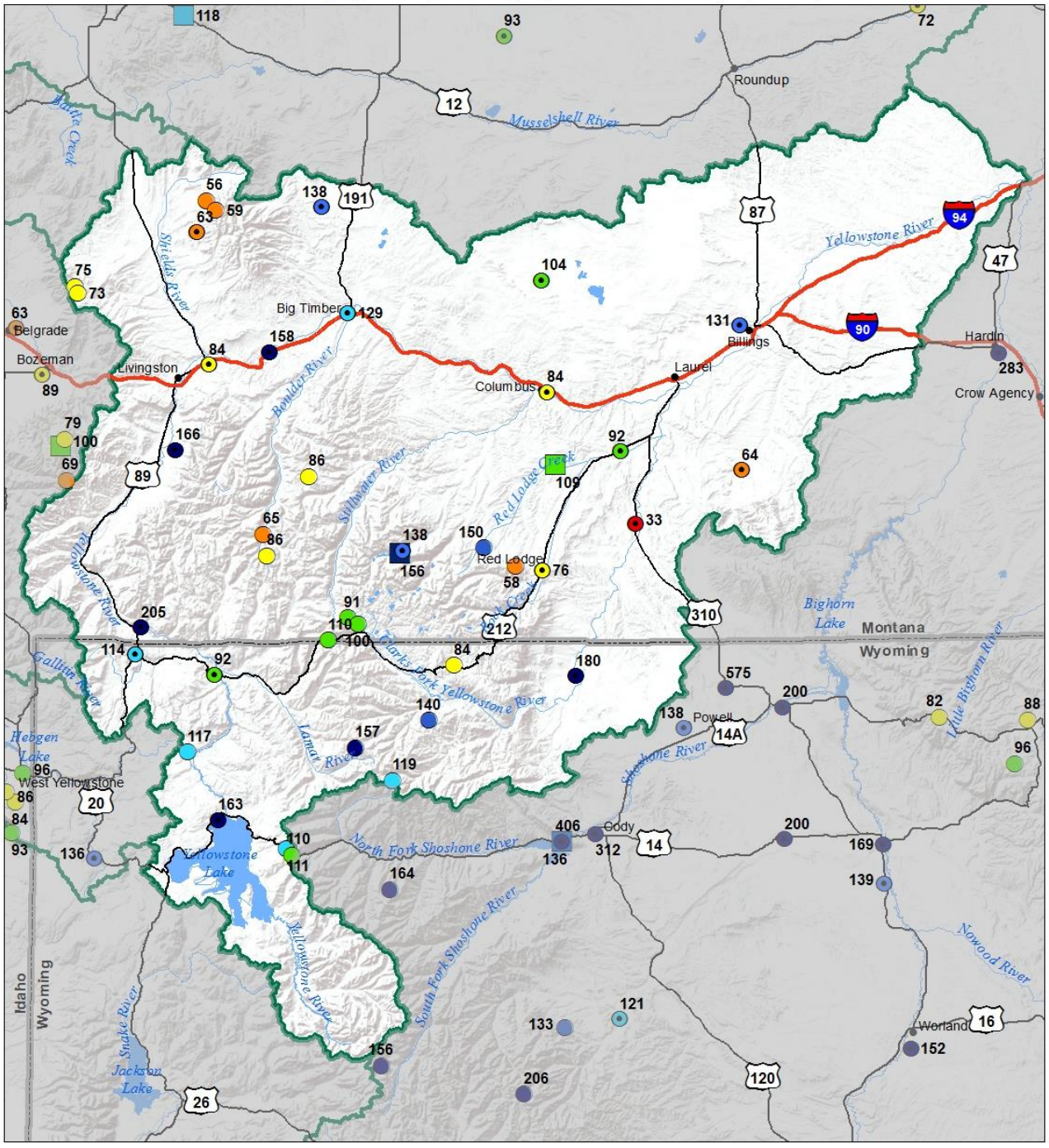
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Upper Yellowstone River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017 (January 1, 2017 - February 1, 2017)



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

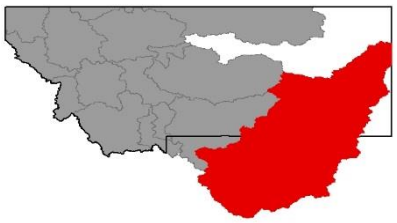
Reservoirs
Percent of Normal

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Lower Yellowstone River Basin

After a slow start to the water year the Lower Yellowstone River basin currently has a well above normal snowpack. The basin has seen relatively consistent snowfall since mid-November and received one of its largest storms during the second week of January. During this storm Big Horn SNOTEL sites received up to 12 inches of snow and southern Wind SNOTEL sites received over 30 inches. Lower elevations in the Big Horn and Powder River basins currently have a below normal snowpack. Overall these basins are near normal. The Wind River basin currently has a well above average snowpack. Blue Ridge near Lander is the highest Snow Course in the basin at 9620 ft. It currently has 13.6 inches of snow water which is 247 percent of normal. Overall the Lower Yellowstone River basin has received above average precipitation since October 1st.

Lower Yellowstone River Basin Data Summary

Snowpack	**Percent of 1981-2010 Normal (Median)**	**Last Year Percentage of Normal (Median)**
WIND RIVER BASIN	168%	72%
SHOSHONE RIVER BASIN	123%	86%
BIGHORN RIVER BASIN	108%	73%
LITTLE BIGHORN BASIN	102%	60%
TONGUE RIVER BASIN	98%	54%
POWDER RIVER BASIN	90%	59%
Basin-Wide	**125%**	**68%**

Precipitation	**Monthly Percentage of Average**	**WYTD Percentage of 1981-2010 Average***	**WYTD Last Year Percentage of Average**
Mountain Precipitation	132%	131%	72%
Valley Precipitation	147%	161%	92%
Basin-Wide Precipitation	**136%**	**140%**	**78%**

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

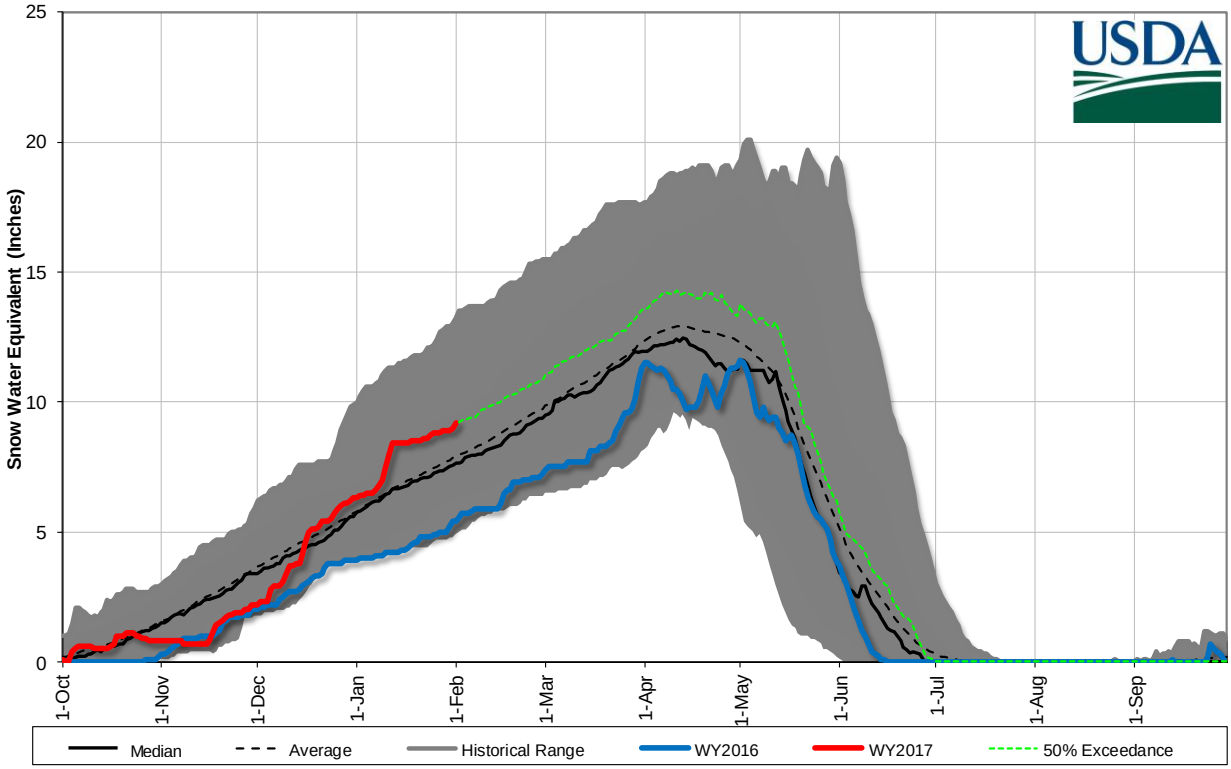
Reservoir Storage	**Percentage of Average**	**Percentage of Capacity (Total)**	**Last Year Percentage of Average**
Basin-Wide Storage	**109%**	**65%**	**106%**

**See Reservoir Storage Table for storage in individual reservoirs*

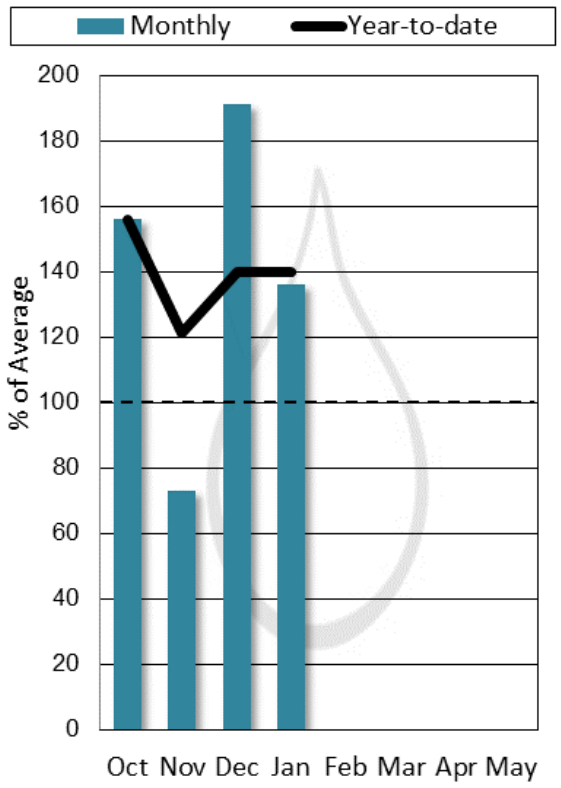
Bighorn Lake	876.3	852.7	825.9	1356.0	**106%**	**65%**
Tongue River Res	50.2	50.2	26.7	79.1	**188%**	**64%**

Lower Yellowstone River Basin Snowpack with Non-Exceedence Projections

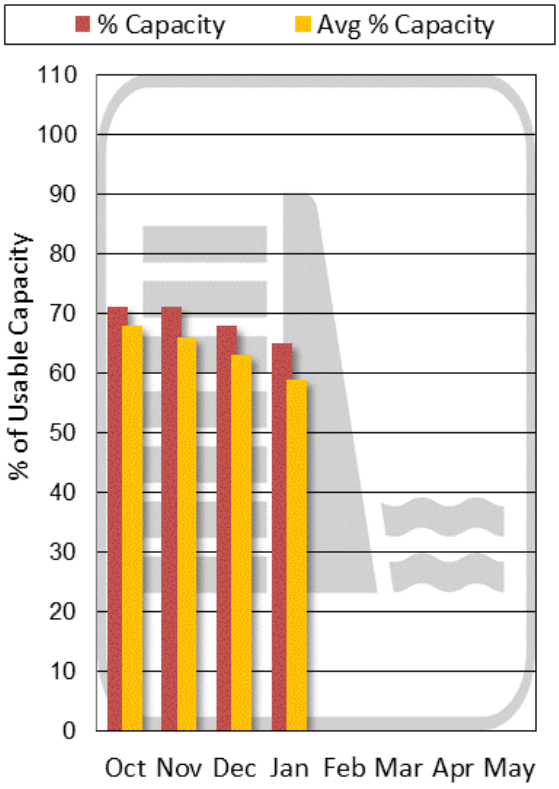
Based on provisional SNOTEL daily data as of 2/1/2017



Mountain and Valley Precipitation

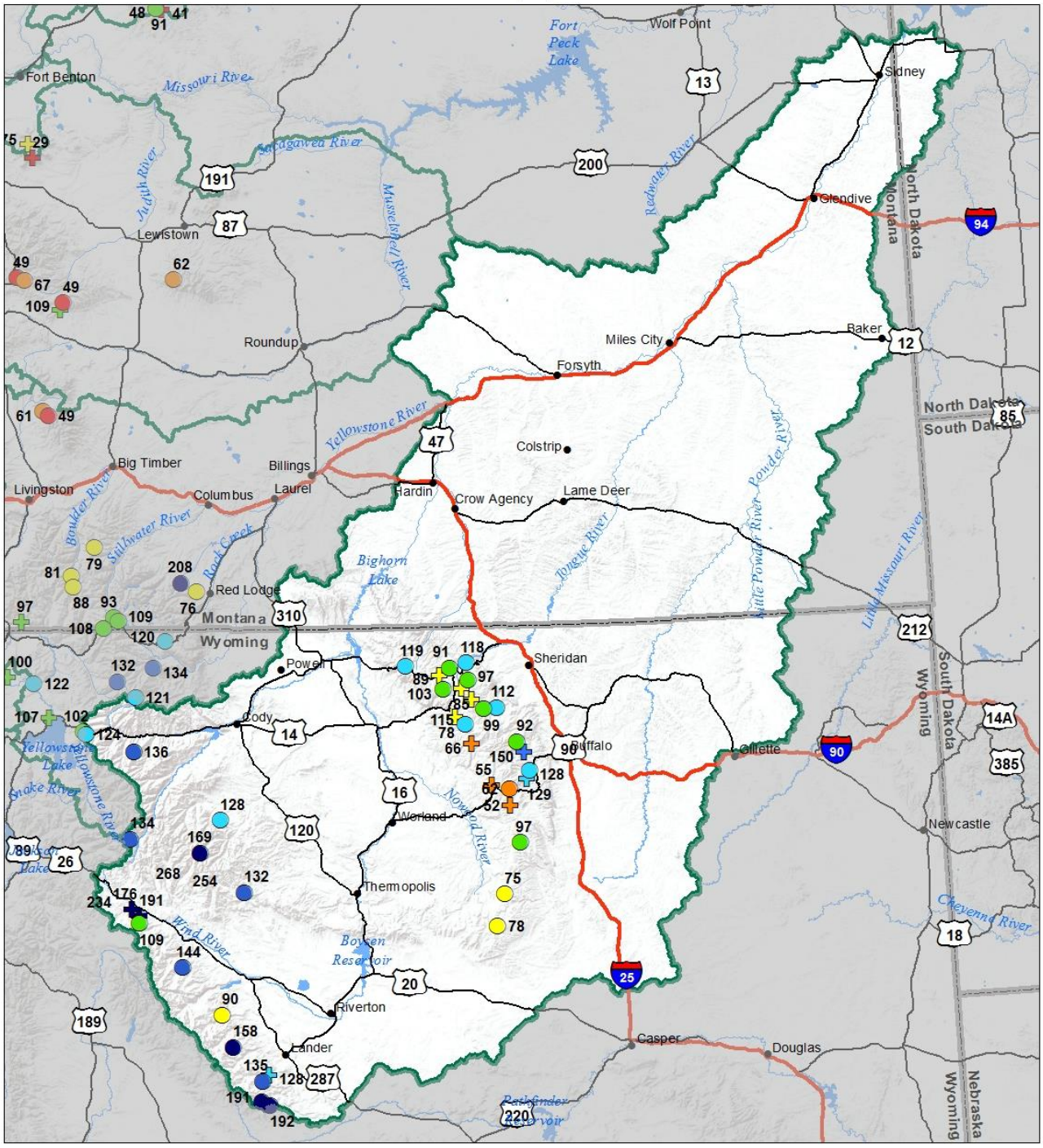


End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Lower Yellowstone River Basin
Snow Water Equivalent
Percentage of Normal
February 1, 2017



Snow Water Equivalent
Percent of Normal

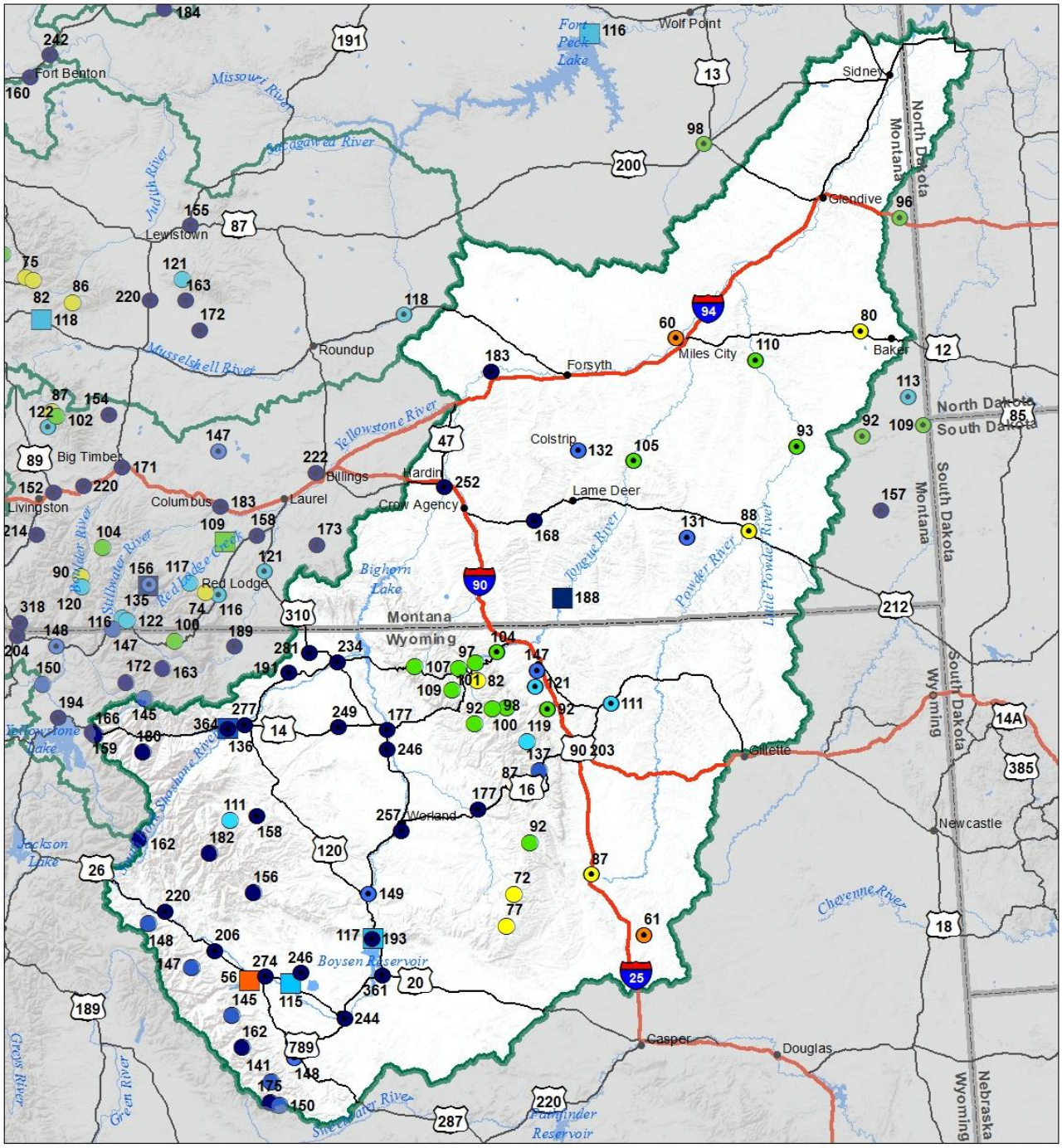
SNOTEL				Snowcourse			
> 150%	71 - 90%			> 150%	71 - 90%		
131 - 150%	51 - 70%			131 - 150%	51 - 70%		
111 - 130%	1 - 50%			111 - 130%	1 - 50%		
91 - 110%	0%			91 - 110%	0%		



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Lower Yellowstone River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

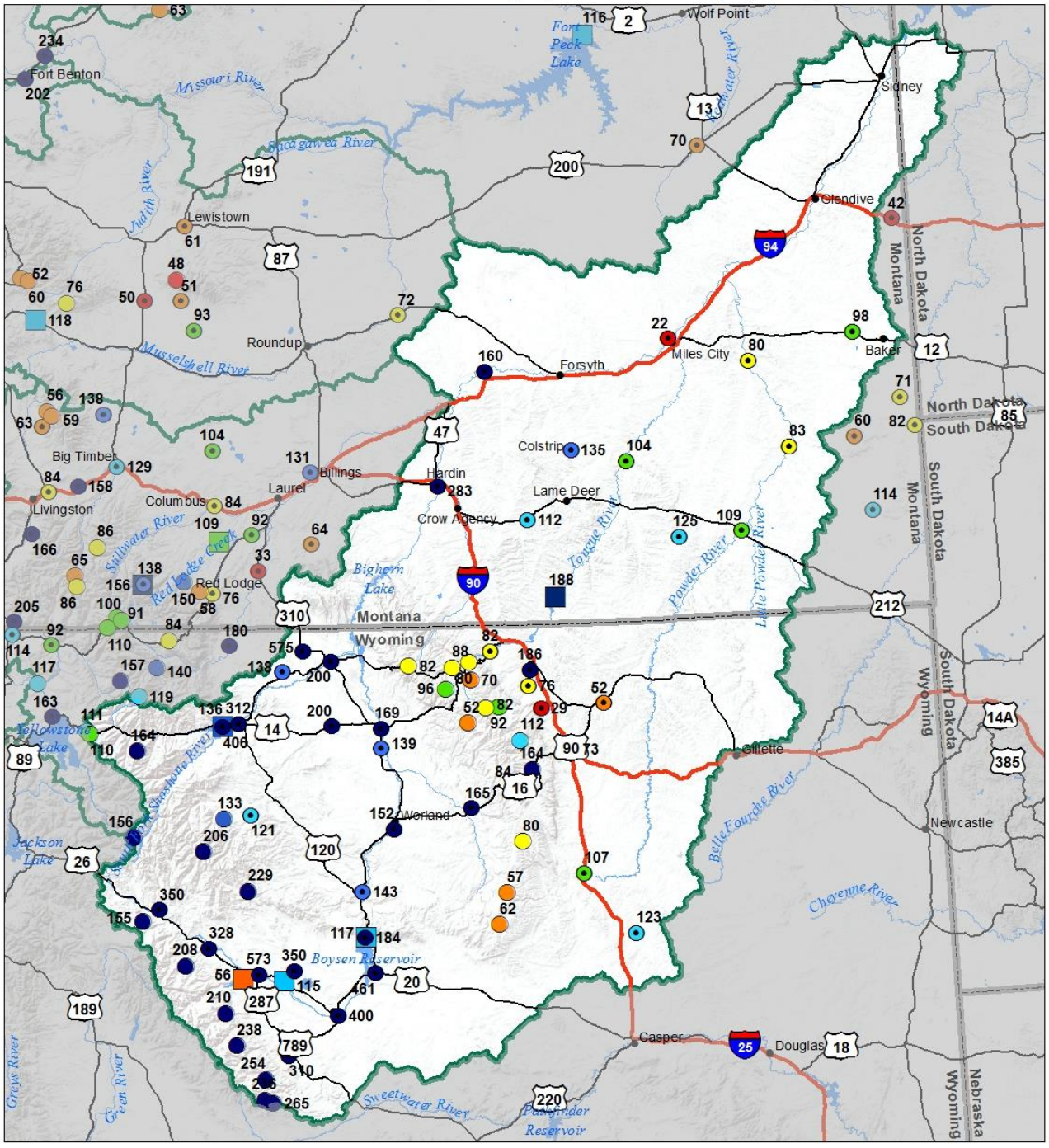
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Lower Yellowstone River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
February 1, 2017 (January 1, 2017 - February 1, 2017)



Precipitation
Percent of Normal

SNOTEL		COOP/ACIS	
> 150%	71 - 90%	> 150%	71 - 90%
131 - 150%	51 - 70%	131 - 150%	51 - 70%
111 - 130%	1 - 50%	111 - 130%	1 - 50%
91 - 110%		91 - 110%	

Reservoirs
Percent of Normal

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



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Data Summary (SNOTEL and Snowcourse)

Montana Snow Sites	Network	Elevation (ft)	Depth (in)	SWE (in)	Median (in)	% Median	Last Year SWE (in)	Last Year % Median
Albro Lake	SNOTEL	8300	41	8	11	73	10.4	95
Ambrose	SC	6480						
Arch Falls	SC	7350						
Ashley Divide	SC	4820	19	4.8	4.5	107	3	67
Badger Pass	SNOTEL	6900	47	15.2	19.5	78	14.2	73
Banfield Mountain	SNOTEL	5600	27	6.9	12.1	57	10	83
Baree Creek	SC	5500						
Baree Midway	SC	4600						
Baree Trail	SC	3800						
Barker Lakes	SNOTEL	8250	27	5	8	63	9.8	123
Basin Creek	SNOTEL	7180	20	2.9	4.5	64	7.1	158
Bassoo Peak	SC	5150						
Beagle Springs	SNOTEL	8850	33	5.9	5.2	113	6.8	131
Bear Basin	SC	8150						
Bear Mountain	SNOTEL	5400	65	20.2	36.6	55	28.9	79
Beartooth Lake	SNOTEL	9360	75	16.7	13.9	120	10.9	78
Beaver Creek	SNOTEL	7850	39	8.1	11.5	70	10.3	90
Big Snowy	SC	7150						
Bisson Creek	SNOTEL	4920	23	5.1	6.3	81	6	95
Black Bear	SNOTEL	8170	76	22.7	23.3	97	21.1	91
Black Mountain	SC	7750						
Black Pine	SNOTEL	7210	31	6.3	6.2	102	5.9	95
Blacktail	SC	5650	26	7.1	8.8	81	7.7	88
Blacktail Mtn	SNOTEL	5650	26	6.3			8.3	
Bloody Dick	SNOTEL	7600	32	6.6	7.6	87	8.8	116
Bots Sots	SC	7750						
Boulder Mountain	SNOTEL	7950	34	7.2	12.6	57	13.4	106
Box Canyon	SNOTEL	6670	29	4.7	5.8	81	4.8	83
Boxelder Creek	SC	5100	11	1.8	4.4	41	2.1	48
Brackett Creek	SNOTEL	7320	43	8.7	11.4	76	12.7	111
Bristow Creek	SC	3900						
Brush Creek Timber	SC	5000						
Bull Mountain	SC	6600						
Burnt Mtn	SNOTEL	5880	27	5	2.4	208	2.4	100
Cabin Creek	SC	5200						
Calvert Creek	SNOTEL	6430	25	5.2	5.5	95	6.6	120
Camp Senia	SC	7890						
Canyon	SNOTEL	7870	50	10	8.2	122	7.7	94
Carrot Basin	SNOTEL	9000	60	13.8	16.7	83	14.9	89
Chessman Reservoir	SC	6200	14	3.5	2.1	167	4.9	233
Chicago Ridge	SC	5800	54	16.4			20	
Chicken Creek	SC	4060	28	7.3	10.8	68	8.7	81
Clover Meadow	SNOTEL	8600	29	6.6	10.3	64	9.1	88

Cole Creek	SNOTEL	7850	31	6.4	8.4	76	4.3	51
Combination	SNOTEL	5600	22	3.4	3	113	3.3	110
Copper Bottom	SNOTEL	5200	28	6.2			3.2	
Copper Camp	SNOTEL	6950	53	16.6			16.4	
Copper Mountain	SC	7700	20	5	6.2	81	7.8	126
Cottonwood Creek	SC	6400						
Coyote Hill	SC	4200	25	6	6	100	5	83
Crevice Mountain	SC	8400	29	5.8	6	97	6	100
Crystal Lake	SNOTEL	6050	20	4.6	7.4	62	8.5	115
Dad Creek Lake	SC	8800						
Daisy Peak	SNOTEL	7600	17	2.9	5.9	49	5.5	93
Daly Creek	SNOTEL	5780	26	5.8	6.6	88	6.4	97
Darkhorse Lake	SNOTEL	8600	63	17.3	17.6	98	20.5	116
Deadman Creek	SNOTEL	6450	16	3.2	6.5	49	6.7	103
Desert Mountain	SC	5600						
Discovery Basin	SC	7050	21	4	5.9	68	6.2	105
Divide	SNOTEL	7800	21	4	6.2	65	6.4	103
Dix Hill	SC	6400			6.6		6.8	103
Dupuyer Creek	SNOTEL	5750	24	4.8	5	96	1.8	36
Eagle Creek	SC	7000						
East Boulder Mine	SNOTEL	6335	26	4.4			2.5	
El Dorado Mine	SC	7800						
Elk Horn Springs	SC	7800						
Elk Peak	SNOTEL	7600	27	7.9			16.5	
Elk Peak	SC	8000						
Emery Creek	SNOTEL	4350	25	6.4	9.5	67	9.9	104
Fatty Creek	SC	5500						
Fish Creek	SC	8000			5.5		10.3	187
Fisher Creek	SNOTEL	9100	78	19.1	20.6	93	18.2	88
Flattop Mtn.	SNOTEL	6300	68	23	28.5	81	24.2	85
Fleecer Ridge	SC	7500						
Foolhen	SC	8280						
Forest Lake	SC	6400						
Four Mile	SC	6900						
Freight Creek	SC	6000						
Frohner Meadow	SNOTEL	6480	26	5.3	4.5	118	5.5	122
Garver Creek	SNOTEL	4250	22	4.3	6.8	63	6.9	101
Gibbons Pass	SC	7100						
Goat Mountain	SC	7000						
Government Saddle	SC	5270	49	14.8			16.8	
Grave Creek	SNOTEL	4300	27	7.1	10.9	65	7.2	66
Griffin Creek Divide	SC	5150						
Hand Creek	SNOTEL	5035	26	6	7.7	78	6.7	87
Hawkins Lake	SNOTEL	6450	43	12.1	16.1	75	16.9	105
Haymaker	SC	8050						
Hebgen Dam	SC	6550	26	6.2	6.8	91	6.9	101
Hell Roaring Divide	SC	5770	44	12.9	19.9	65	16.5	83
Herrig Junction	SC	4850	35	10.6	17.6	60	13	74
Highwood Divide	SC	5650	6	1.2	4.1	29	4.9	120

Highwood Station	SC	4600	10	2.1	2.8	75	4.3	154
Holbrook	SC	4530			6			
Hoodoo Basin	SNOTEL	6050	63	17.3	26.3	66	22.6	86
Humboldt Gulch	SNOTEL	4250	23	7	8.6	81	8.1	94
Jakes Canyon	SC	9040						
Johnson Park	SC	6450	13	3.7	3.4	109	4	118
Kishenehn	SC	3890						
Kraft Creek	SNOTEL	4750	36	8.1			6.9	
Lake Camp	SC	7780	26	6.4	6	107	5.2	87
Lakeview Canyon	SC	6930						
Lakeview Ridge	SNOTEL	7400	20	4.2	6.5	65	5.9	91
Lemhi Ridge	SNOTEL	8100	26	6.3	6.4	98	8.3	130
Lick Creek	SNOTEL	6860	29	4.2	5.9	71	5.6	95
Little Park	SC	7400						
Logan Creek	SC	4300						
Lolo Pass	SNOTEL	5240	47	14.3	18.7	76	15.7	84
Lone Mountain	SNOTEL	8880	39	8.8	11.2	79	10.6	95
Lookout	SNOTEL	5140	43	12.5	19.4	64	14.7	76
Lower Twin	SNOTEL	7900	38	7.4	11	67	11.3	103
Lubrecht Flume	SNOTEL	4680	17	3.5	3.8	92	3.7	97
Lubrecht Forest No 3	SC	5450	15	2.8	3.2	88	2.9	91
Lubrecht Forest No 4	SC	4650	10	1.8	1.8	100	1.8	100
Lubrecht Forest No 6	SC	4040	20	3.3	2	165	2.8	140
Lubrecht Hydroplot	SC	4200	18	3	3.2	94	3	94
Lupine Creek	SC	7380			4.8		3.8	79
Madison Plateau	SNOTEL	7750	52	13.9	14.1	99	13.8	98
Many Glacier	SNOTEL	4900	25	6.3	9.5	66	4.9	52
Marias Pass	SC	5250	31	7.8	10.6	74	5	47
Mineral Creek	SC	4000						
Monument Peak	SNOTEL	8850	51	10.5	12	88	10.8	90
Moss Peak	SNOTEL	6780	69	18.9	21.7	87	22.5	104
Moulton Reservoir	SC	6850			4.2		6.3	150
Mount Allen No 7	SC	5700						
Mount Lockhart	SNOTEL	6400	37	10	12.2	82	8.8	72
Mudd Lake	SC	7650						
Mule Creek	SNOTEL	8300	38	8.1	8.8	92	9.5	108
N Fk Elk Creek	SNOTEL	6250	24	4.7	6.7	70	6.1	91
Nevada Ridge	SNOTEL	7020	33	8	8.6	93	8	93
New World	SC	6900			7.8			
Nez Perce Camp	SNOTEL	5650	37	8.4	8.6	98	8.3	97
Noisy Basin	SNOTEL	6040	53	18.1	25.4	71	29.1	115
Norris Basin	SC	7550		6.5	6.5	100	5.2	80
North Fork Jocko	SNOTEL	6330	60	16.8	27.1	62	21.1	78
Northeast Entrance	SNOTEL	7350	33	6.9	6.4	108	5.4	84
Onion Park	SNOTEL	7410	23	3.5	7.9	44	8.1	103
Ophir Park	SC	7150			8.7		8.6	99
Parker Peak	SNOTEL	9400	74	17.1	13	132	12.4	95
Peterson Meadows	SNOTEL	7200	27	4.6	5.5	84	7.4	135
Pickfoot Creek	SNOTEL	6650	30	6.2	6.5	95	7.3	112

Pike Creek	SNOTEL	5930	5	1.4			4.3	
Pipestone Pass	SC	7200	13	2	2.4	83	6.6	275
Placer Basin	SNOTEL	8830	45	8.3	10.5	79	7.8	74
Poorman Creek	SNOTEL	5100	51	16.5	23.4	71	18.2	78
Porcupine	SNOTEL	6500	14	2.5	4.1	61	3.8	93
Potomageton Park	SC	7150						
Revais	SC	4800						
Rock Creek Mdws	SC	3400	29	7.8				
Rocker Peak	SNOTEL	8000	30	6.2	8.2	76	8.3	101
Rocky Boy	SNOTEL	4700	9	2.9	3.2	91	2.9	91
Roland Summit	SC	5120						
S Fork Shields	SNOTEL	8100	21	4.5	9.2	49	7.7	84
Sacajawea	SNOTEL	6550	37	6.9	8.9	78	9.7	109
Saddle Mtn.	SNOTEL	7940	47	11	15.8	70	17.1	108
Short Creek	SNOTEL	7000	17	2.7	3.6	75	4.3	119
Shower Falls	SNOTEL	8100	49	9.5	12.1	79	11.1	92
Skalkaho Summit	SNOTEL	7250	40	9.2	14	66	12.3	88
Sleeping Woman	SNOTEL	6150	41	8.2	9.6	85	7.6	79
Slide Rock Mountain	SC	7100						
Spotted Bear Mountain	SC	7000	27	7	8.7	80	5.5	63
Spur Park	SNOTEL	8100	34	8.6	12.8	67	12.9	101
Stahl Peak	SNOTEL	6030	67	22.1	22.1	100	24	109
Stemple Pass	SC	6600						
Storm Lake	SC	7780	22	4.4	7.4	59	8	108
Stringer Creek	SNOTEL	6550	18	3.2	6.7	48	7	104
Stryker Basin	SC	6180	57	18.3	19.6	93	19.4	99
Stuart Mountain	SNOTEL	7400	59	15.4	20.4	75	17.8	87
Taylor Road	SC	4080	13	2.2	2.2	100	2	91
Ten Mile Lower	SC	6600	19	4.2	4	105	5.9	148
Ten Mile Middle	SC	6800	21	4.4	6	73	6.6	110
Tepee Creek	SNOTEL	8000	27	6.2	8.5	73	9.4	111
Timberline Creek	SC	8850						
Tizer Basin	SNOTEL	6880	25	5.6	6	93	5.3	88
Trinkus Lake	SC	6100	56	20	25.2	79	23.9	95
Truman Creek	SC	4060	17	4.3	2.9	148	2.3	79
Twelvemile Creek	SNOTEL	5600	41	10.5	11	95	10.2	93
Twenty-One Mile	SC	7150	33	8.4	10	84	10.5	105
Twin Lakes	SNOTEL	6400	60	18.3	24.9	73	22	88
Upper Holland Lake	SC	6200	48	14.8	20.6	72	11.7	57
Waldron	SNOTEL	5600	28	6.7	6.6	102	3.9	59
Warm Springs	SNOTEL	7800	39	8.6	12.3	70	11.6	94
Weasel Divide	SC	5450	51	16.4	20.6	80	14.3	69
West Yellowstone	SNOTEL	6700	36	7.9	7	113	8	114
Whiskey Creek	SNOTEL	6800	41	9	9.6	94	8.9	93
White Elephant	SNOTEL	7710		13.1	16	82	16.5	103
White Mill	SNOTEL	8700	62	15.9	14.6	109	14.5	99
Wolverine	SNOTEL	7650		9.5	7.1	134	8.4	118
Wood Creek	SNOTEL	5960	21	4.3	5.8	74	3.5	60
Wrong Creek	SC	5700						

Wrong Ridge	SC	6800						
Younts Peak	SNOTEL	8350	45	12.9	9.6	134	7	73

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Montana Water Supply Outlook Report

Natural Resources Conservation Service